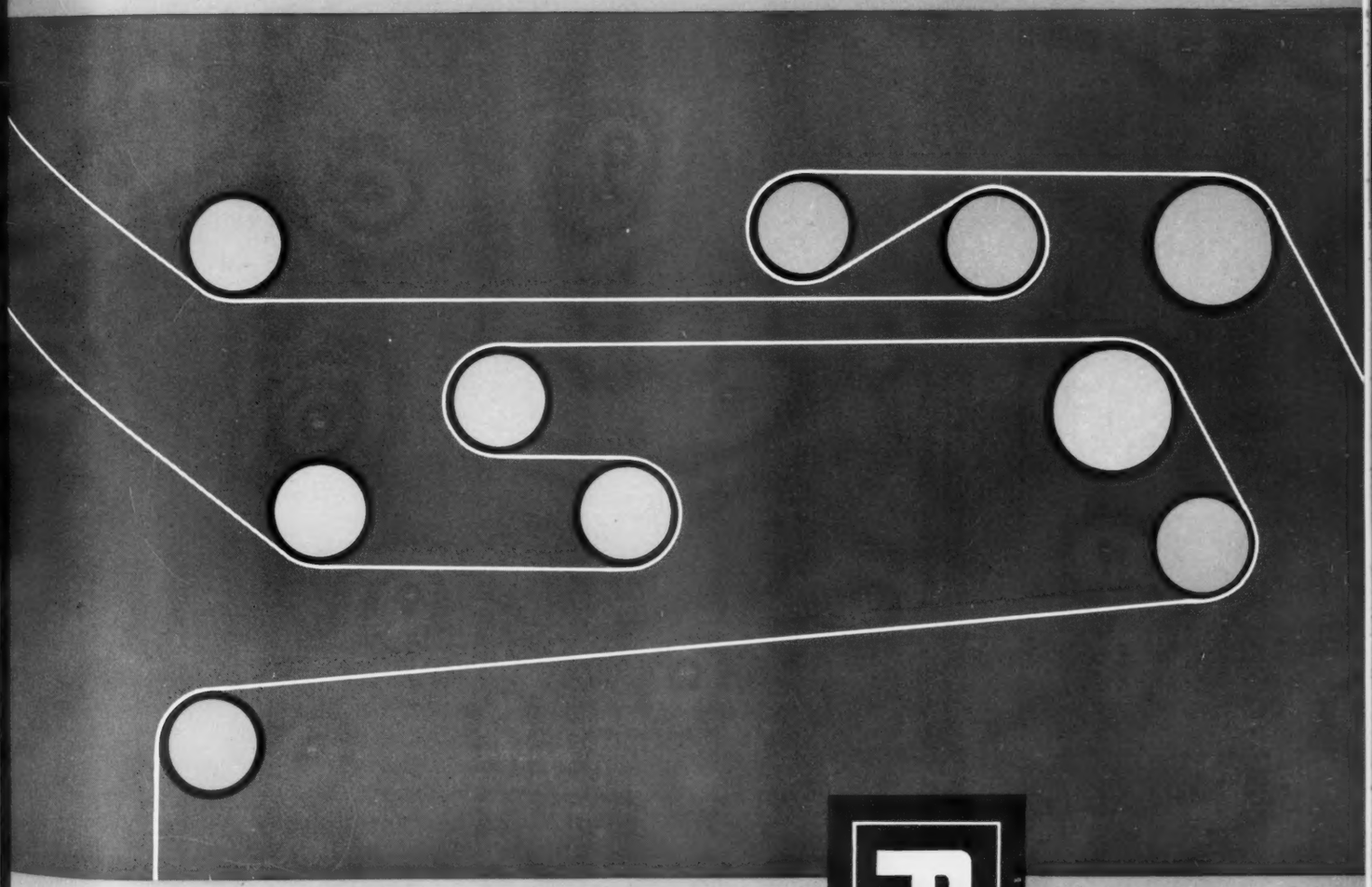
PRINTING EQUIPMENT

Engineer



AUGUST 1948

3 questions

That deserve high-priority rating among PAPER CUTTER BUYERS

how well does it Cut?

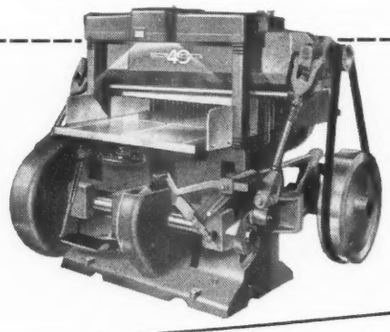
what will upkeep Cost?

how long will it Last?

TAKE SEYBOLD Heavy-Duty 40″ Precision Paper Cutting Machines.

Seybold certainly has not overlooked any opportunity to make the operator's work easier, and safer. Of course a Seybold has a clutch, clamp pressure adjustment, illuminated table and gauges, etc. We consider all of them minor to the major job of "How well", "How much" and "How long". That is why we continue to stress the importance of "Double-End-Pull, combined with Continuous Double-Shear knife action".

These are the *two all important reasons* why Seybold owners get cleaner, more accurate cutting . . . why chatter marks are eliminated . . . why there are no uncut sheets at the bottom of the pile . . . why knives stay sharp and last longer . . . why upkeep is reduced to a minimum . . . why years of usefulness are added to the life of the machine.



Now Available — Seybold Heavy-Duty 40″ Precision Paper Cutters

In line with our policy of "first come, first served", Seybold offers a limited number of Heavy-Duty 40″ Paper Cutters for early delivery—as soon as 4 to 6 weeks in many instances. These machines are now on display at all Seybold district offices. Send in the coupon for additional information. Better yet, stop in and see this machine in action today. Find out for yourself why "Double-End-Pull, combined with Continuous Double-Shear knife action" makes such a big difference in paper cutter performance.

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General Offices, Cleveland 5, Ohio

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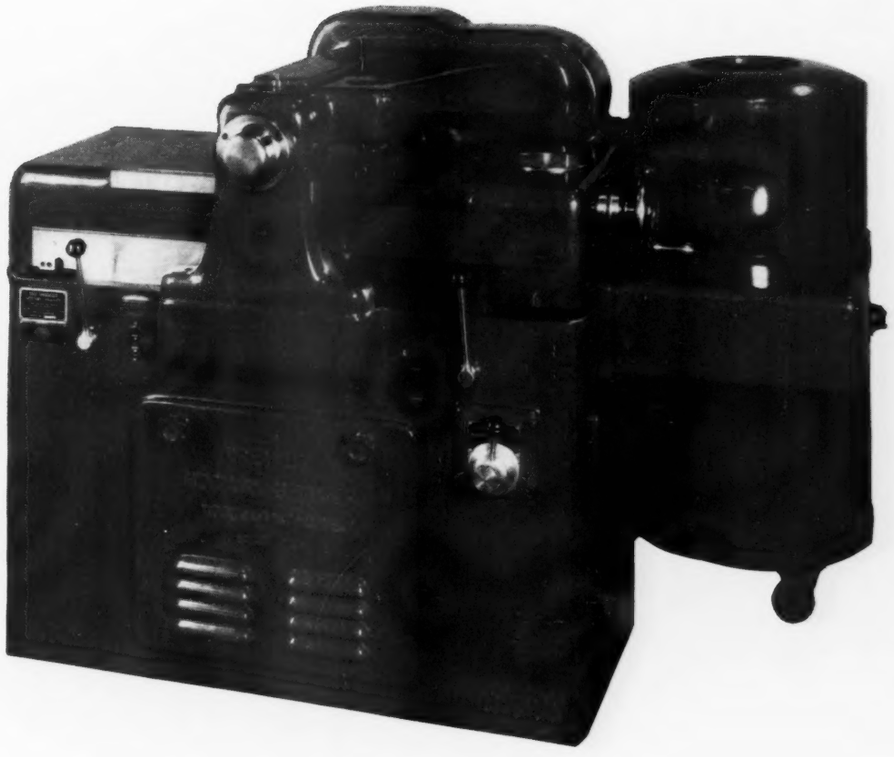
CRAFTSMEN'S CHOICE!



Whenever printing craftsmen gather and the talk turns to the best means of shaving flat plates for superior reproduction, you'll hear high praises sung for the Premier Rotary Shaver.

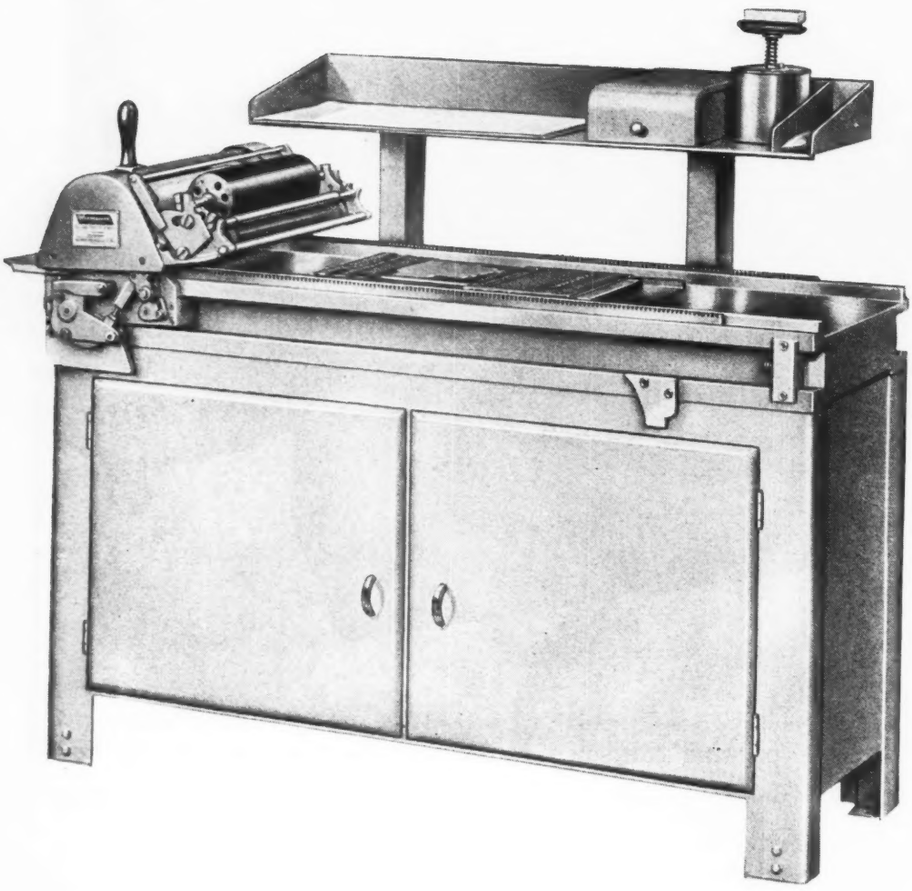
In leading commercial shops across the country, and in the plants of progressive newspapers, large and small, you'll find Premier Shavers on the job—doing their work with precision, netting a profit for their owners.

Operators appreciate the Premier's accuracy, its ease of operation, the variable speeds of the work bed made possible by its new hydraulic drive . . . Best of all they like the finished product it turns out, making possible more perfect printing—the goal of all true craftsmen.

We invite you to write for detailed information on the Premier. Let us tell you where there is one in operation in your vicinity, so you may see for yourself why it has won acclaim of the graphic arts industry, why it has been first choice of craftsmen for many years.

STA-HI CORPORATION • 1020 CROCKER ST. • LOS ANGELES 21

Low Cost, Compact Proof Press



No. 05 *VANDERCOOK
Form size: 14x24 inches

New . . . . . moderately priced general purpose proof press especially suitable for galley proofs of machine composition and made-up pages.

Simple . . . . . no cylinder packing to change and the simple, efficient inking mechanism requires no adjustments whatsoever.

Speedy . . . . . impression cylinder and inking roller trips are entirely automatic. Anyone can quickly produce good proofs at high rate of speed.

Low Upkeep . average life of impression cylinder is five years, and of inking rollers, two years. Both can be quickly changed at small expense.

Compact . . . . extra large steel cabinet with ample storage space, convenient shelf for paper, rag bin, cleaning can and ink.

***One of the eight Vandercook Proof Presses sold exclusively in the U.S.A. by**

AMERICAN TYPE FOUNDERS

Branches in Principal Cities

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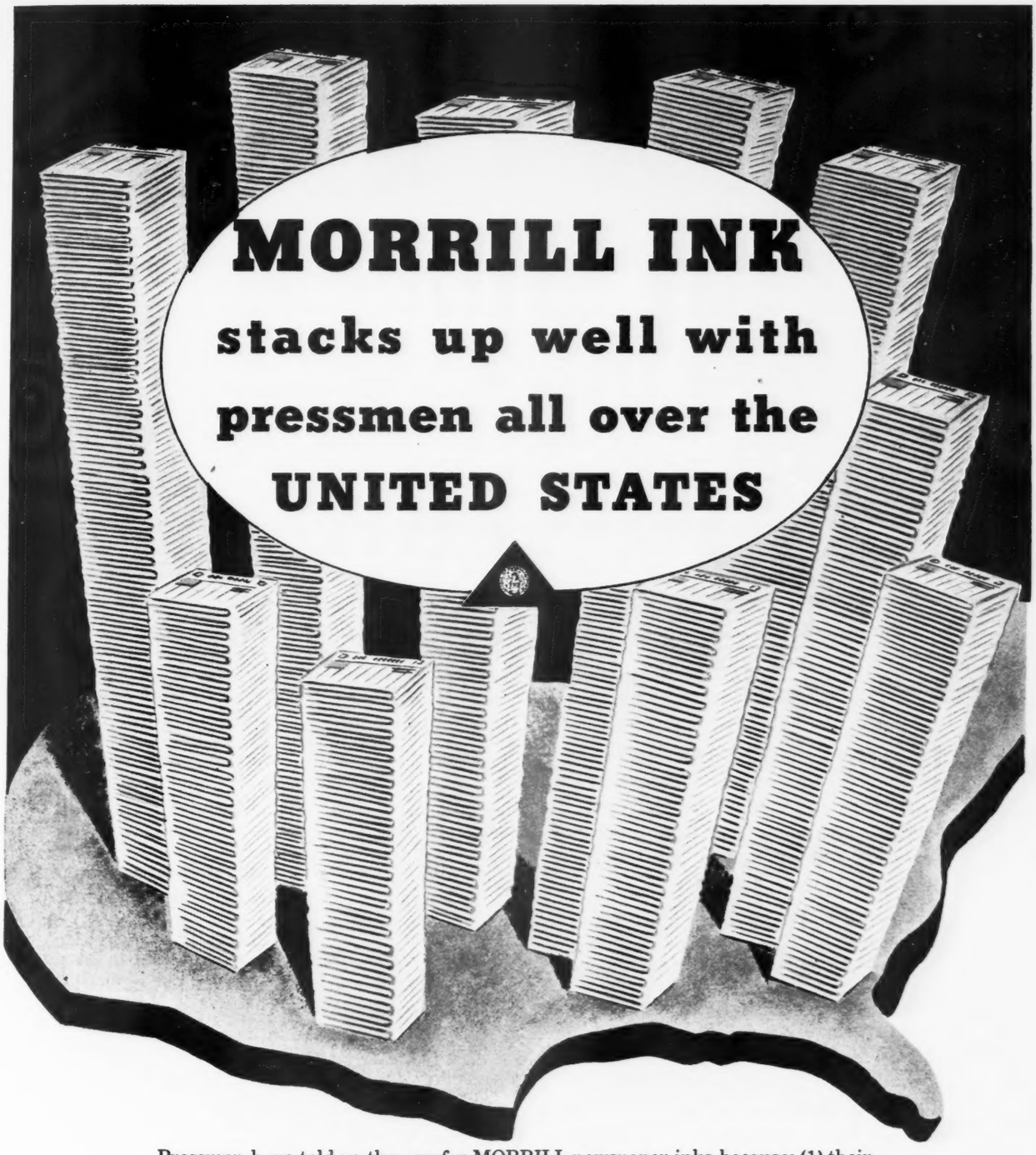

Pressmen have told us they prefer MORRILL newspaper inks because: (1) their uniform consistency assures smooth performance on the press; (2) their prompt delivery helps them maintain production schedules.

We believe these are good reasons, for in our opinion, it is of utmost importance in any newspaper printing plant to have the right ink right on time.

Fine quality newspaper inks and dependable service are characteristic of MORRILL.

GEO. H. MORRILL

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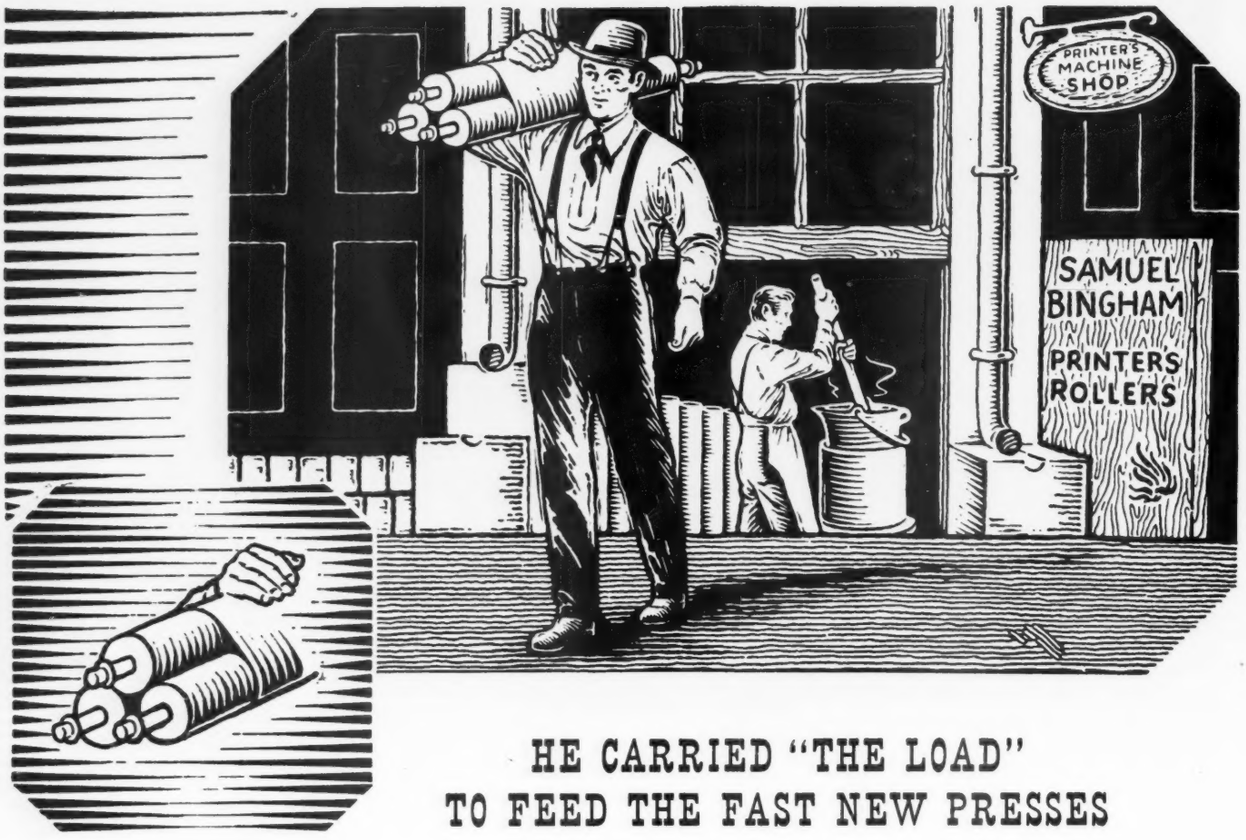

HE CARRIED "THE LOAD" TO FEED THE FAST NEW PRESSES

IN 1854 SAM'L BINGHAM Printer's Roller Co. had begun to grow. Progressive printers were fast quitting the practice of brewing their own rollers and were turning to the more convenient, ready-made products of professional roller makers.

It was the age of mechanization and printers and publishers, like everyone else, were striving to make machines to take the load off the backs of men.

In that year a catalog was issued announcing as ready for delivery Single and Double Cylinder and Type Revolving Presses which ran at unheard of speeds and whose productivity was almost unlimited.

The spirit of progress was everywhere. An unknown, Maj. Bartholomew Beniowski, constructed a press, type, and new pneumatic roller just to prove printing methods, as he found them, were antiquated and impractical.

His inventions proved unimportant but the spirit of practicality through mechanization which motivated him was also moving other thinking men throughout the world.

As orders for more rollers were made, Bingham expanded. Deliveries were made by foot from the shop to almost every printer of size and importance in New York.

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PRINTING EQUIPMENT *Engineer*

Volume 76 Number 5

A technical publication for the mechanical executive responsible for printing production, equipment and supplies in the commercial, magazine, private plant and daily newspaper field.

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Subscription price per year, $3.50 in advance in U.S.A. Single copy current issues, 35c; feature issues $1 per copy; December Equipment and Supplies Catalog Issue $2 per copy in United States, $2.50 outside of United States. (U. S. currency). Subscriptions in foreign countries $4.50 (U. S. currency) in advance. Canadian printing plant mechanical and production executives receiving Printing Equipment Engineer under CCA regulations will be charged $1 postage per year in advance to cover additional postage to Canada.

Member Circulation ECA Controlled Audit

Printed in U. S. A.

Acceptance under the act of June 5, 1934, authorized Feb. 5, 1948, under provisions of amended section 573 P. L. and R.

LEADING ARTICLES FOR JULY 1948

Portraits Official Family.....37
Intl. Assoc. Printing House Craftsmen, Inc.

Rotogravure—IV—in Commercial Field.....42
ARTHUR F. GOAT

Arizona Printers, Inc.....46
How plant was engineered in new location
ROBERT ROYDEN GREER

Equipment and Supplies.....52
Monomelt's File Folder Manuals 52
Returns Dead Stereo Plates to Furnace 52
Printer's Bevel 52
Universal Tachometer Indicator 52
Graeber Patch and Eyeletting Machine 53
Paisley Data Sheet 53
Complete Series K Presses 53
Mergenthaler's Times Roman 53
Litho-King Web Offset Press 54
The Kastenkooler 54
Presses Again Offered 54
Mid-Year Calendar 54
Ring Slide Binders 54

ANPA Newspaper Mechanical Conference.....55
DR. R. R. VOORHEES

Printing Machinery Lubrication.....61
A. F. BREWER

Designs for Cotton and Burlap Bags Grown Up.....70

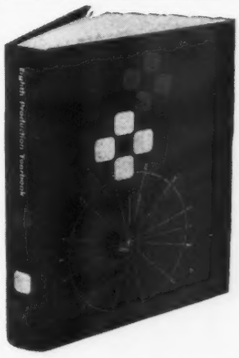
Conference Dates Box.....72

Patents for Graphic Arts Field..75

Standard Process in New Home.84

Executive Paragraphs.....86

Beck Expands Printing Division.....90



A VALUABLE BOOK

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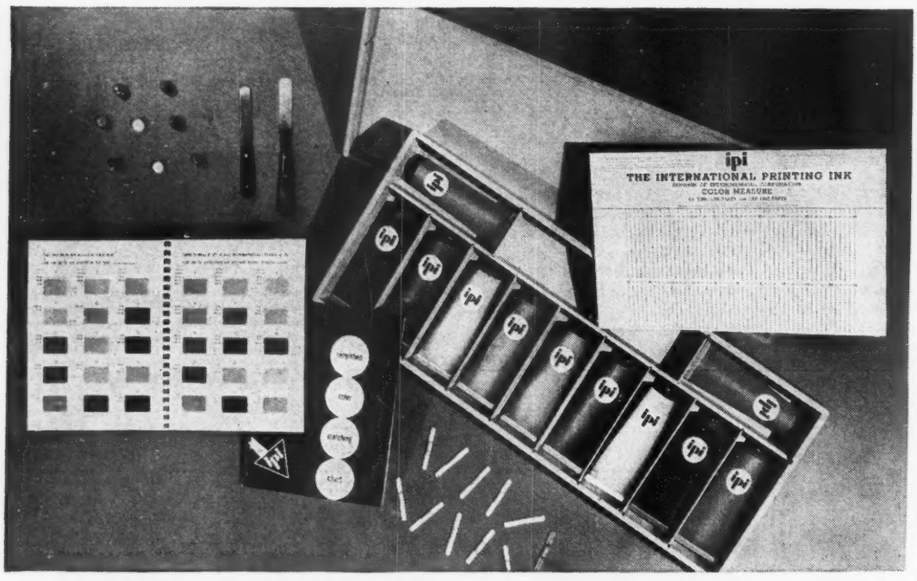
MATCH OVER 100 COLORS WITH ONLY 6 COLORED INKS! PRINTERS DO IT QUICKLY, EASILY WITH IPI MATCH BOX



EVERYTHING YOU SEE IN THIS PICTURE IS INCLUDED IN THE IPI MATCH BOX

Each Match Box contains 8 tubes of ink, 3 compounds, 16-page Simplified Color Matching Chart, patented mixing slab with measuring system, extra small-hole caps for each tube, 2 mixing knives, tube-rolling keys, and substantial sectionalized wooden case—everything you need to improve your color printing service and start reducing costs immediately.

Matches Made in Shop; Ink Inventory Reduced, Costs Cut

Many printers who take pride in their color printing service find it necessary to carry a large stock of inks in order to meet demands for uncommon colors. Even then, customers sometimes complain that they haven't a wide enough choice of colors.

As a result, the printer often has to call his ink supplier to mix the colors—paying a service charge, holding presses, and delaying delivery of the job.

That's why the IPI Match Box was born. It enables the small printer to offer a color printing service of more than 100 colors which he can mix and match in his own shop, and so helps him sell more color printing. It reduces his ink inventory, too, as only 6 colors need be stocked. Instructions are easy to follow. The cost of Match Box mixtures is low; press waiting time is eliminated; deliveries speeded. Color schemes may be selected from the Simplified Color Matching Chart by following a few easy steps.

For the larger printer, the Match Box makes it possible to increase his profit on color printing. Small quantities of colors for proofing can be mixed quickly, easily, and at little cost. When proofs have been approved, larger amounts of the colors can be ordered from the nearest IPI branch, or can be mixed by the printer, himself, with a suitable scale. Formulas for mixing large quantities of the colors are also given in the Simplified Color Matching Chart.

Write your nearest IPI branch and ask about the Match Box. Examine its contents for yourself; you'll like what you can do with it.

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To meet this need, we have improved our famous Holdfast Halftone Blacks in scratch - resistance and in ability to dry better in the pile. New ingredients and new techniques are used in their manufacture. They print sharply and cleanly, yet possess high non-scratch characteristics. They do not dissipate their drier; dry better in the pile. They have excellent fountain flow and mobility.

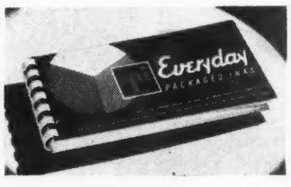
Holdfast Halftone Blacks are formulated to meet a wide range of printing and paper conditions. They are priced within the range of conventional halftone blacks. Try them on your next halftone job. Compare the results.

JUST OFF THE PRESS—NEW EVERYDAY INK BOOK

Yes, it's off the press, the latest specimen book of IPI Everyday packaged inks.

In it are color samples of the entire Everyday line—25 colors, including process colors, 11 blacks, 6 bond and cover inks, and 4 poster inks. Other features of the book are a chart of the characteristics of the colored inks, and descriptions of the blacks, whites, and compounds.

The IPI Everyday Ink Book is free to all printers and ink users. Write on your letterhead for your copy. Then select a black ink and a colored ink you can use, and place a trial order.



Set Superior-Figure Combinations on the Ludlow

Superior-figure matrices aligned at the top are assembled directly in the line of Ludlow matrices, from which is cast a single one-piece slug

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COMPLETE SAFETY CHAPMAN Static Eliminators are absolutely safe. Over 40 years of *actual, continual use under all conditions* have proven this. No shielding or any precaution is needed to protect operators. Neither pressman, State or other governments object to its use. CHAPMAN Static Eliminators are TESTED and APPROVED BY THE UNDERWRITERS' LABORATORIES. Output current through the CHAPMAN Static Eliminator is limited to 1/100th of an ampere — while changing your supply voltage automatically to meet requirements of paper undergoing press work. Current consumed is as low as 10 watts per press.

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Brooks Banknote Co.	Springfield, Mass.
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Chilton Company	Philadelphia, Penna.
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Columbian Art Works	Milwaukee, Wis.
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W. B. Conkey Company	Hammond, Ind.
Consolidated Lithographing Corp.	Brooklyn, N. Y.
Consolidated Paper Corp. Ltd.	Montreal, Canada
Continental Lithograph Corp.	Cleveland, O.
The Cornwall Press, Inc.	Cornwall, N. Y.
Crawford Press, Inc.	So. Weymouth, Mass.
Crocker McElwain Company	Holyoke, Mass
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Dominion Loose Leaf Co. Ltd.	Toronto, Canada
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Government Printing Office	Washington, D. C.
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Judd & Detweiler, Inc.	Washington, D. C.
Kary-Safe Paper Bag Co., Inc.	New York, N. Y.
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The Thos. D. Murphy Co.	Red Oak, Iowa
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Pantograph Prtg. & Stat. Co.	Bloomington, Ill.
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Public-Press-Limited	Winnipeg, Can.
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Russell's Ry. & Motor Bus Guide Co.	Cedar Rapids, Iowa
The Shelby Sales Book Co.	Shelby, Ohio
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Stovel Company, Ltd.	Winnipeg, Canada
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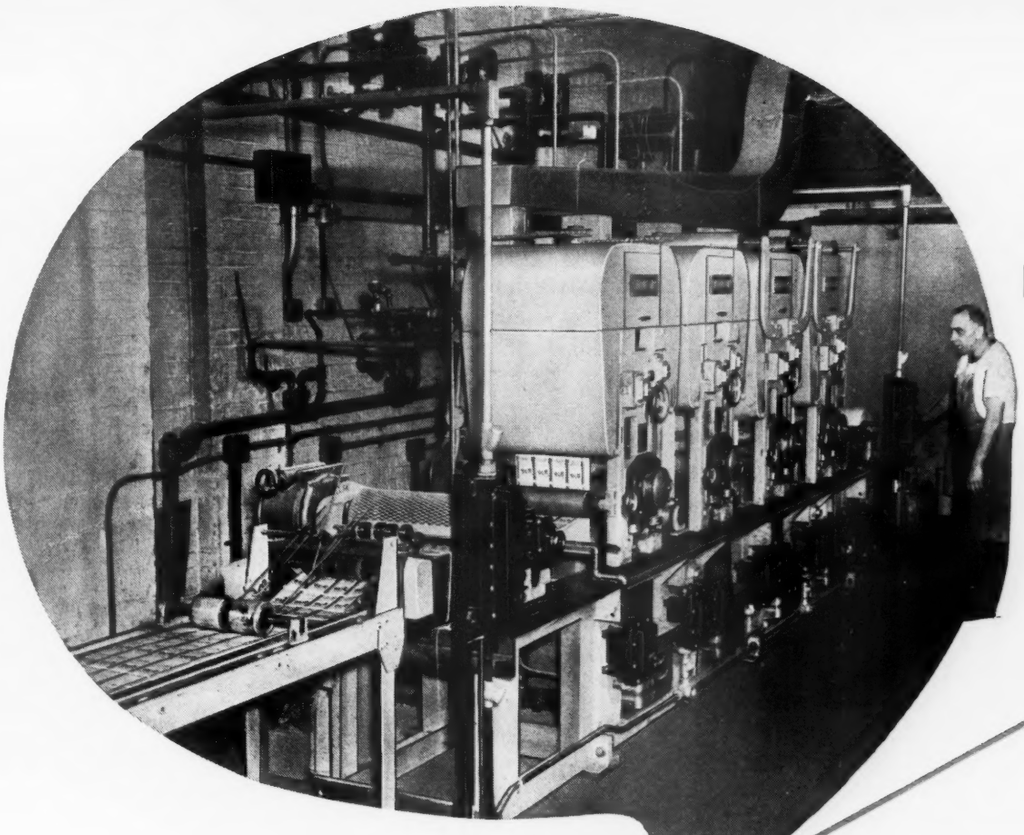

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Champlain's 14" rotogravure press with sheeter *delivers* multi-color sheets at an average rate of 18,000 per hour! Under good conditions...24,000! Because of comparatively small dimensions, this combination is ideal when floor space is limited and high production is needed. AND, it makes possible multi-color, roll fed printing and in-line fabrication for a moderate capital investment.

The Champlain 14" press prints any number of colors, including varnish, with one pass through the press—gives color uniformity because of a circulating ink system in an enclosed ink fountain—enables quick printing cylinder changes—offers extreme simplicity in operation—eliminates wash up except when changing colors—exact register control by push button or electric eye—makes possible printing on a wide variety of stocks—reduces plate costs because of the small printing cylinders—saves on paper costs through use of roll fed stock.

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400 WEST MADISON STREET, CHICAGO 6, ILLINOIS
RUSS BUILDING, SAN FRANCISCO 4, CALIFORNIA

OUR THANKS to the many firms in the industry who pioneered, tested and PROVED the finer working qualities of the E.B.CO Offset Press.

In 1948...How much profit Will you LOSE ... If you DON'T USE IT?

How many customers ...

will you lose ... if you can't give them miracle-service ... deliver it, as soon as it's printed (for it takes "no time" for the lightning Baum to fold it, or fold, paste and trim it?) Others CAN today give FASTER deliveries ... thanks to their Many-purpose-many-profit-Automatic Baum.

What will it cost to OWN it?

and corral the maximum profit ... including extra "velvet" profits of two or three operations at once ... and give your customers unsurpassed fast deliveries ... and even give them better prices while making more than ever net profit ... breaking down sales resistance thereby?

It will cost—only a small part of your increased profits ... may we suggest you install it on the payment-out-of-greater-earnings plan?

Could you dream up a better answer to the Printers' Prayer than ...

An Automatic, All - Buckle, Folder - Scorer - Cutter - Paster-Perforator that insures perfection in accuracy, versatility in folding every used style of fold and at tomorrow's PRODUCTION RATE (speed greater than the speed "ceiling" paper can travel) ... folding the thinnest paper or the thickest, any texture or any condition of stock ... perfect accuracy ... spoilage nil.

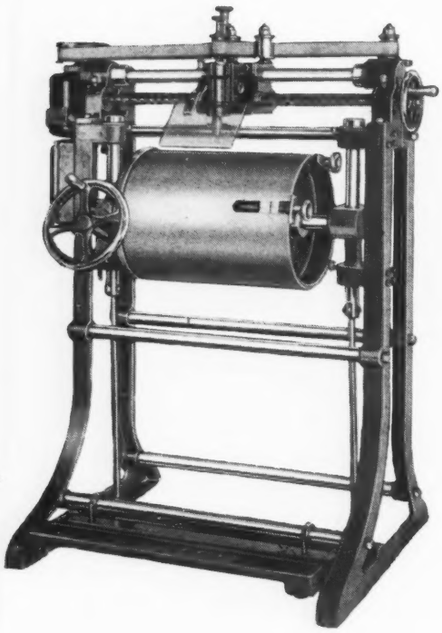
Could you dream up any better buy - - - than Pre-War Prices?
Could you dream up any better deliveries than 30 to 60 days?

We feel we have presented the proposition very poorly—you can't understand or realize HOW MUCH it IS costing you to do without it ... or you would have wired your order for a 14x20 or 17½x22½ or 22x28 or 25x38 Baum Gold-Mine. Why not do it NOW???? Over 2,000 competitors HAVE since V-E Day.

Russell Ernest Baum
INC.

615 CHESTNUT STREET • PHILADELPHIA 6, PA.

SMATCO ROUTERS



Curved Router

A prerequisite to good color printing is a properly prepared printing plate. This requires routing the curved stereotype plate to secure accurate color and page register. The outstanding value in machine performance for this vital operation is the Smatco Curved Router. Designed and constructed for efficient and reliable service, the Smatco Curved Router is priced within the budget of every Publisher and Printer. Standard models fit all rotary newspaper printing presses. Special sizes are manufactured to order for use with various size rotary magazine presses.

Radial Arm Flat Router

The exact specifications of the stereotype flat casts which go into the form have an important bearing on the typographical appearance of the printed product. The one mechanical operation which contributes most to the quality of the printed illustration is routing the flat plates. The Smatco Radial Arm Flat Router incorporates all the proven engineering principles required of a high speed precision routing tool. The capacity of the plate lockup is from single column to full page flat casts. The Smatco Radial Arm Flat Router is a sturdy and reliable precision machine within the price range of all the Graphic Arts trade.

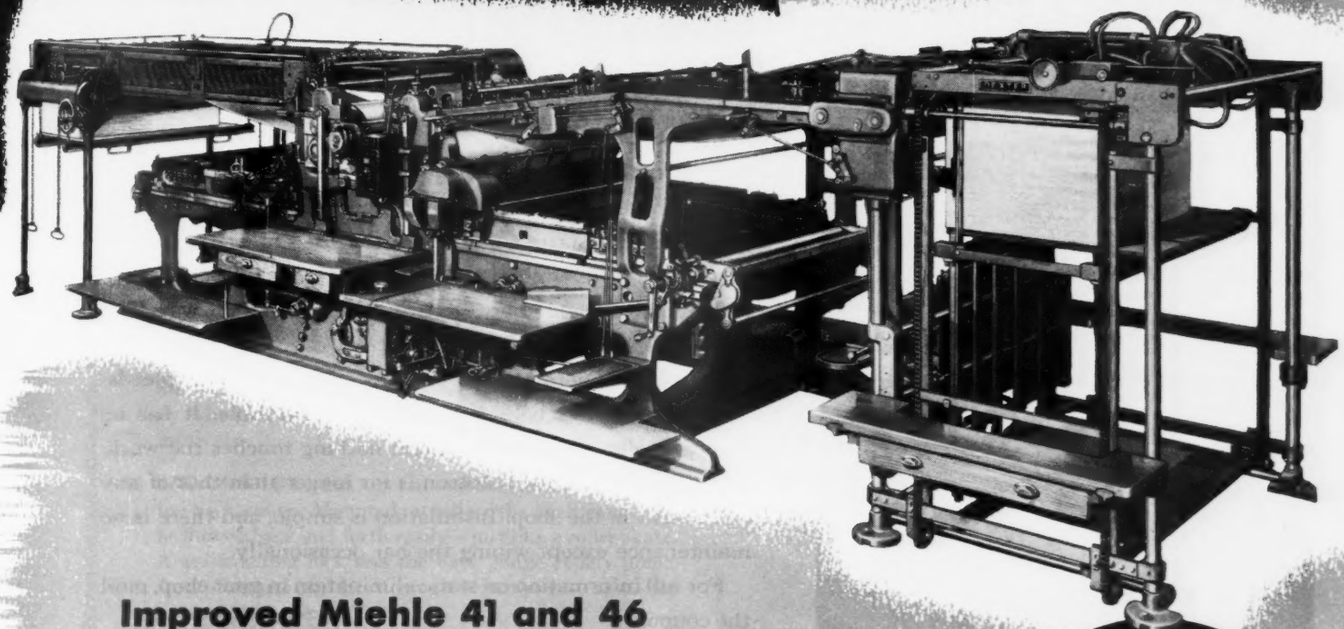
JOHN GRIFFITHS CO. INC.

11 WEST 42nd STREET • NEW YORK 18, N. Y.

...in New York it's MIEHLE

MORE THAN 450 new postwar Miehle presses have been added to the thousands already operating in the New York area. This demand for Miehle equipment is based on the experience of large and small plants in securing maximum production at minimum cost with Miehle presses . . . even on the toughest jobs. The constantly high production turned out by Miehles is based not on press speed alone, but on steady, dependable operation as well . . . on *all kinds* of runs . . . together with simplicity of adjustments, complete accessibility and other features which reduce down time between runs—*these* are reasons why printers and pressmen prefer Miehle.

It is true in New York, and wherever fine printing is done—*printers depend on Miehle.* Visit a neighboring plant—ask the man who runs one—and you will see why Miehle presses are your logical choice for maximum production of highest quality work—day in and day out.



Improved Miehle 41 and 46 Single and Two Color Letterpresses

Included among recent installations in the New York area and throughout the country are many of the improved Miehle 41 and 46 Single Color and Two Color Letterpresses. Here are some of the features of these modern presses which mean *real production:*

New Dexter Stream Feeder • Positive Chain Delivery • Four Roller Distribution • Convenient Accessibility • Simple Adjustments • Steady, Dependable Operation

Write for new catalog describing these new letterpresses.

THE MIEHLE 41 LETTERPRESSES 46 years of development

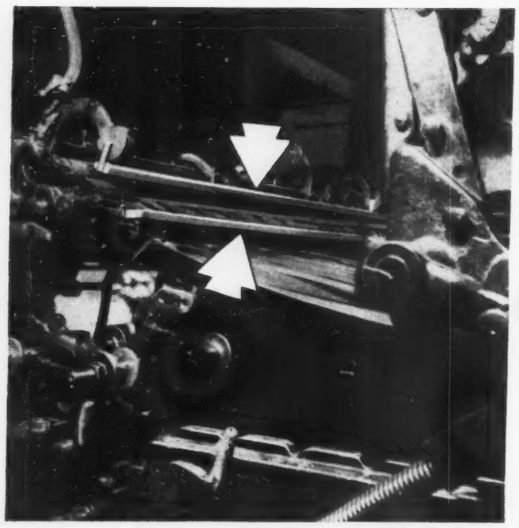
MIEHLE PRINTING PRESS & MFG. CO.

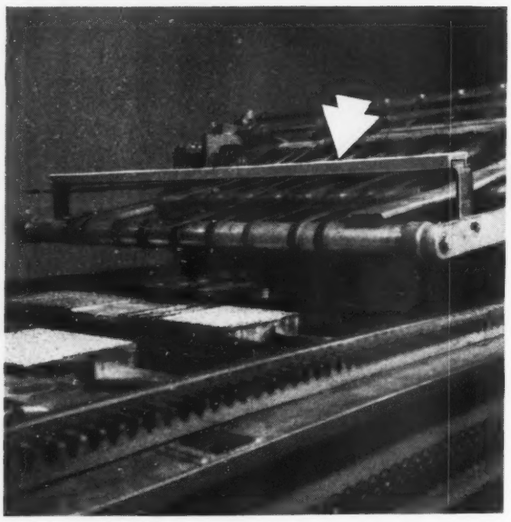
2011 Hastings Street (14th and Damen) · Chicago 8, Illinois

. . . ask the man who runs one

NO MORE STOPPAGES

due to *Static*





Ionotrons® pay off on both production and proving presses

When briefs or other legal documents are due, on-time delivery is a *must.* There must be no delays due to static! That's why a prominent New York printer specializing in legal work has put Ionotron Static Eliminators on his Miehles and his Vandercook proof press.

Since the installations were made on the Miehles, there have been no delivery choke-ups or delays due to static. Piling is straight. The Vandercook must run from one proof up to three hundred or more proofs of a single form. After passing between the Ionotrons on the delivery end of this press, the proofs pile up in a neat, even stack — *static-free.*

The Ionotron eliminates static in a simple, unique way. The bar contains a self-activating source of continuous radiation. This radiation ionizes the air adjacent to the stock and "bleeds-off" static charges before they can cause trouble. It has no flame, no electric connection, and nothing touches the work. The active life of the Ionotron is far longer than that of any equipment in the shop. Installation is simple, and there is no maintenance except wiping the bar occasionally.

For full information on static elimination in your shop, mail the coupon!

IONOTRON *Static* **ELIMINATOR**

Dept. P-5, U. S. Radium Corp.
535 Pearl Street, New York 7, N. Y.

( ) Please send Ionotron bulletin.

( ) Attached are details of our static problem on ..... (Type of press)

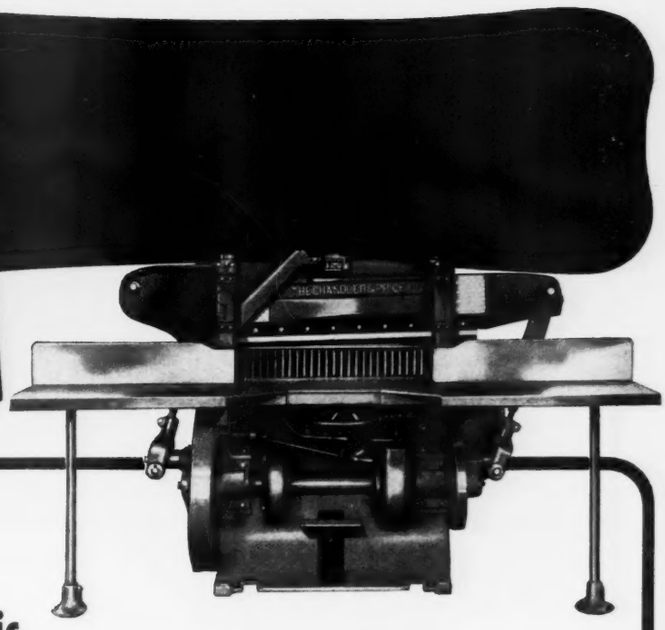
Name ..... **Title** .....

Company .....

Address .....

City ..... **Zone** ..... **State** .....

HERE ARE MIGHTY IMPORTANT FACTS *for you*



... Let's look over the Chandler and Price Automatic

THE BASE—Note the design, which is cast in one piece and unusually rigid. The cutting table is absolutely free from yielding or "spring."

THE MOTOR BRACKET—Observe the mounting below the bed of the cutter. This makes the center of gravity much lower and prevents motor oil from dripping on the stock. The motor is belted direct to the flywheel.

THE CLUTCH—A multiple disc type that requires adjustment only after long periods. Any adjustment to take up wear is easy.

THE BRAKE—Self adjusting, takes up wear automatically. Oil cannot get on the brake drum or brake.

LUBRICATION—All bearings under the base are oiled from clusters of tubes. The operator never gets "down and under" to do the oiling. The roller bearing of the fly-wheel is greased by a grease cup, filled at long intervals.

BACK GAUGE—Let's get above the table and observe the back gauge. Mounted on rollers the back gauge can be moved back and forth easily—just like a roller skate. A quick-acting lock sets the back gauge at any point. And of course the back gauge is in three sections for greater convenience.

KNIFE BAR—The hollow, bridge-truss construction provides extra strength without extra weight. The large bearing surface at each end of the knife bar insures minimum wear, parallel knife travel and clean, accurate cutting. The knife is pulled, not pushed, through the stock in a double shear motion.

THE FRICTION BOX—Here a positive, free wheeling principle is employed, so that after years of operation, the friction box remains noiseless. Binder pressure is varied by turning a handwheel on the face of the box.

SIDE PLATE—An exclusive C & P, patented feature is the sliding panel which keeps trimmings out of the knife slot.

EXTENSION TABLES—For greater versatility, these tables can be supplied for either or both sides of C & P Automatic cutters.

TAPE MAGNIFIER—An illuminated magnifying glass made by Bausch and Lomb provides easy reading of the back gauge tape.

FULL SAFETY OPERATION—C & P cutters positively cannot repeat. To start the machine the operator must make two motions of the hand which prevents accidental starting. Two-handed safety control can be provided if desired.

A SIZE TO FIT YOUR NEEDS — C & P Automatic cutters are built in three sizes—39″, 44″, and 50″ — making available a size for any plant.

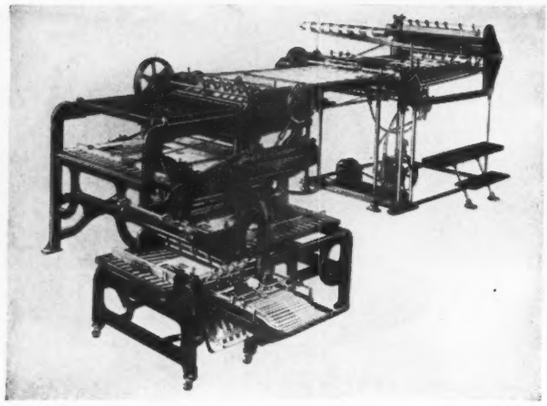
ATTENTION CRAFTSMEN CONVENTIONERS

You are invited to visit our plant Monday, August 9, 1-5 P.M. These cutters and C & P presses will be on display.

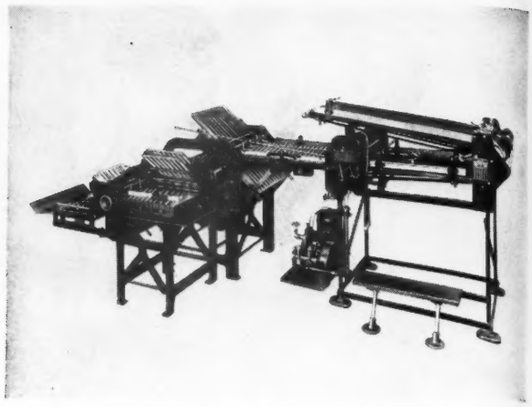
THE CHANDLER & PRICE COMPANY

CLEVELAND, OHIO

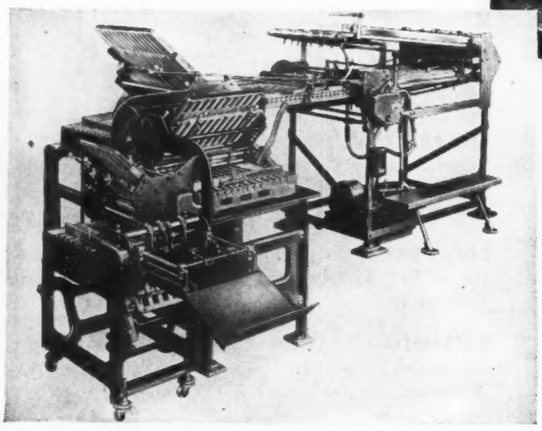
★ *Manufacturers of Printing Machinery for over 60 Years* ★



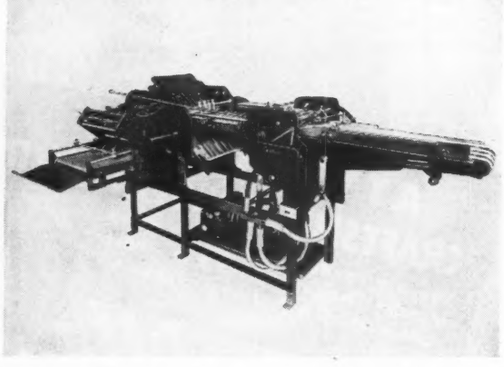
CLEVELAND "K"—10x12"—39x52"-64". *For catalog signatures in 16s, 24s, 32s, booklets singly or in gangs, broadsides and special jobs in large sheet sizes. Adapted to folding of road maps and to other types of special folding.*



CLEVELAND "OO"—4x6"—22x28". *For direct mail folders and booklets and general job work. Specially adapted to trade binderies and larger printing plants as it includes larger sheet size than Model "OS".*



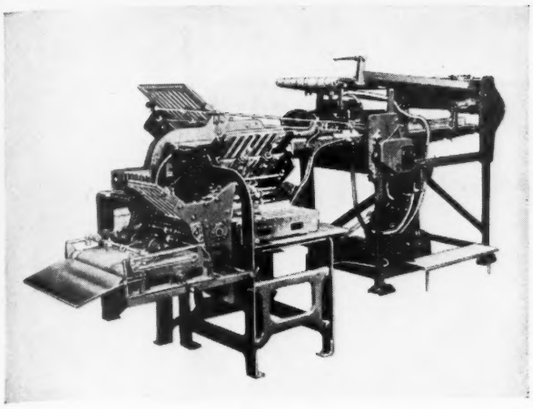
CLEVELAND "MS"—5x7"—25x38". *For direct mail folders and booklets, general job work singly or in gangs, catalog and publication signatures. Folds 3 r.a. 16 page signatures up to 9½x12½" page, and 4 r.a. 32 page signatures up to 6¼x9½" page. Adapted to all types of printing plants requiring 25x38" sheet. Suitable for replacing old Model "B".*



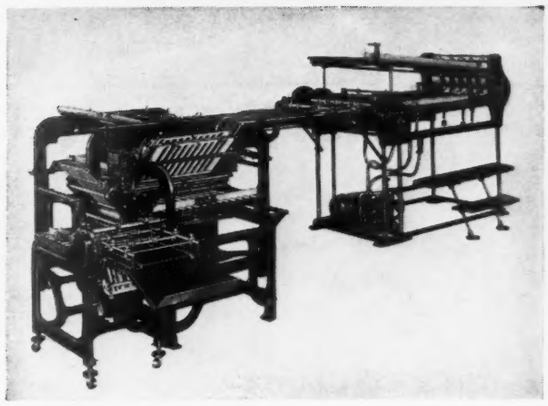
MODELS "WWC" (above) and "WWF" (right), *when equipped with small signature attachment, will fold package inserts down to ¾" wide, at high speed and stacked vertically for easy banding.*

CLEVELAND "WWC"—4x5"—14x20". *Equipped with air wheel continuous feeder. For 4, 6, 8 and 12 page circulars, greeting cards, package inserts, etc.*

CLEVELAND "WWF"—3x4"—14x20". *Equipped with friction continuous feeder. Simplest type available for average work. For 4, 6, 8 and 12 page circulars, greeting cards, package inserts, etc.*



CLEVELAND "OS"—4x6"—19x25". *For direct mail folders and booklets and general job work. Specially adapted to medium and small printing plants.*



CLEVELAND "MM"—5x7"—28x44·58". *For direct mail folders and booklets singly or in gangs, general job work, catalog and publication signatures. Folds 3 r.a. 16 page signatures up to 11x14" page and 4 r.a. 32 page up to 7x11" page. Well adapted to publication and catalog plants using Dexter Jobbers and Double 16s and to trade binderies.*

...BINDERY ECONOMIES

... *SEVEN Cleveland Folding Machines!*

To meet your individual requirements and to serve the needs of the Graphic Arts industry as a whole, Cleveland Folding Machines are available in *seven* models, handling sheets from 3 x 4″ to 42 x 62″.

Each model folds a wide range of signatures for the maximum sheet it accommodates.

Whether your requirements call for folding 4 page circulars, package inserts, greeting cards, magazine signatures in 16s or 32s, booklets singly or in gangs or broadsides and special jobs, there's a Cleveland to meet your specific need with sound performance and high speed—backed by a dependable service if and when needed.

Cleveland Folders will bring to your plant the exceptional earning power made possible by all Dexter Equipment.

Write for more information about the *seven* Cleveland Folders—and other Dexter and Christensen Machines for the printing and binding industries.

CLEVELAND "KK"—Four Parallel 10x12"—42x62". *For work printed in gangs of two or more up in 4, 6, 8, 12, 16, 20, 24, 28 and 32 pages. Makes one fold, 2, 3 and 4 parallel folds.*

Dexter & Christensen Machines

All Dexter and Christensen Products are sold and serviced by

DEXTER FOLDER COMPANY

General Sales Offices, 330 West 42nd Street, New York 18, N. Y.

SALES REPRESENTATIVES: Chicago, Philadelphia, Boston, Cleveland, Washington, St. Louis

AGENTS: Dallas, Denver, San Francisco, Los Angeles, Seattle, Toronto, Montreal, Winnipeg . . . and in Foreign Countries

***DEXTER** Machines are built by Dexter Folder Company at Pearl River, N. Y.*
***CHRISTENSEN** Machines are built by Christensen Machine Company at Racine, Wisc.*

A *NEW* STAR PERFORMER FOR YOUR ENGRAVING DEPARTMENT

The Chemco Cold Grid Printer...

joins the rest of the line of machines which make for high production with minimum effort for the photoengraver.

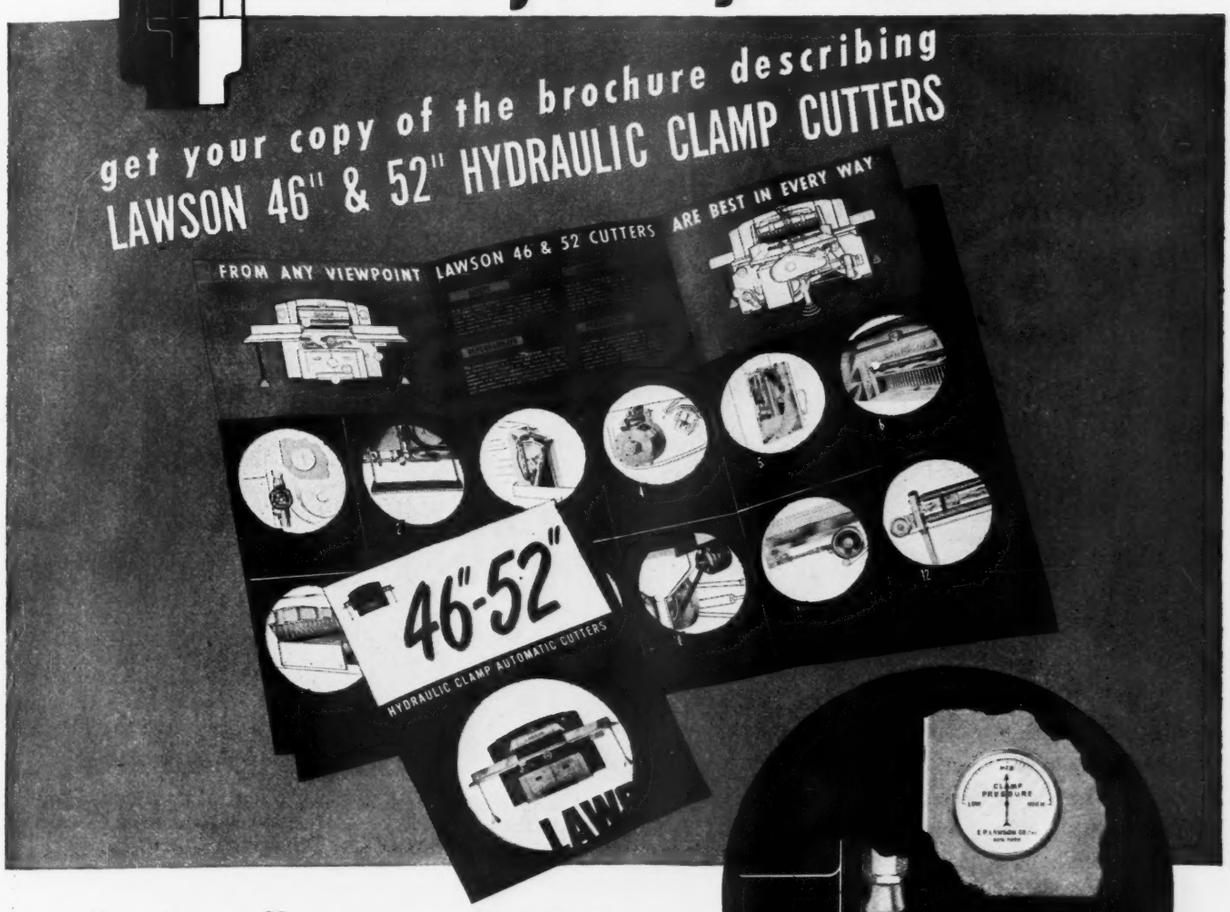
Printing frame and self contained light source, composed of a grid of closely spaced fluorescent tubes specifically made to Chemco specifications, furnish a light source capable of a rapid exposure of the bichromated metal surface. Power consumption of only 800 watts furnish a uniform intensity of light to the entire usable printing surface of 25" x 32".

The extremely low cost of operation, complete lack of fumes, smoke and heat, coupled with uniform printing qualities make this printer the finest of its kind on the market today. Contact your Chemco representative at once.

CHEMCO PHOTOPRODUCTS COMPANY, INC.

Works — Glen Cove, N. Y. — Branches In All Principal Printing Areas

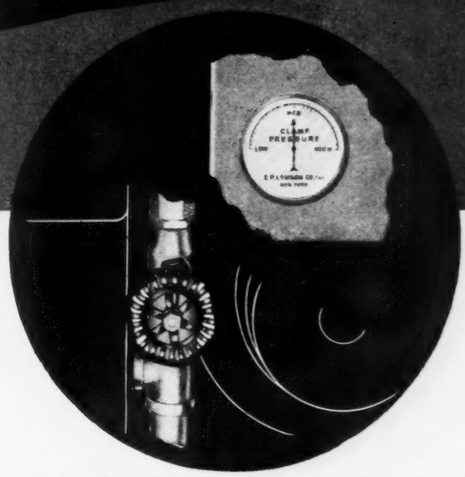
before you buy a cutter...


get your copy of the brochure describing
LAWSON 46" & 52" HYDRAULIC CLAMP CUTTERS
FROM ANY VIEWPOINT LAWSON 46 & 52 CUTTERS ARE BEST IN EVERY WAY
46"-52"
HYDRAULIC CLAMP AUTOMATIC CUTTERS

• facts • figures • features show why LAWSON cutters rate best

Write for your copy of the brochure which "tells all" about the only 46" and 52" HYDRAULIC CLAMP CUTTERS available, a LAWSON exclusive. After you have looked the brochure over, you'll see why LAWSON is your choice from the viewpoint of

- *SAFETY*
- *PRODUCTION*
- *ACCURACY*
- *DEPENDABILITY*



COMPLETELY HYDRAULIC CLAMP MECHANISM

assures correct pressures for varied stocks by simple adjustment of conveniently located valve. Dial indicator on face of cutter shows amount of pressure. In contrast with obsolete friction devices for clamping, LAWSON hydraulic mechanism gives you a uniform cushioned pressure which does not jar the lift or throw the stock out of line.

E. P. Lawson Co.
NEW YORK
BOSTON
PHILADELPHIA

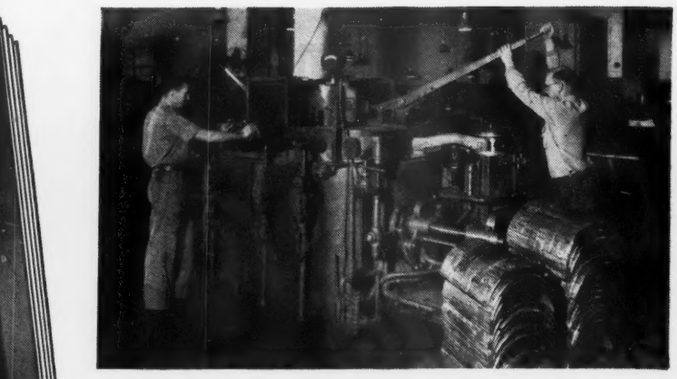
EXCLUSIVE DISTRIBUTORS

HARRY W. BRINTNALL CO., INC. ..... *Los Angeles, San Francisco, Seattle*
A. E. HEINSOHN PRINTING MACHINERY ..... *Denver, Colo.*
TURNER PRINTING MACHINERY, INC. ..... *Cleveland, Chicago, Detroit*
SOUTHEASTERN PRINTERS SUPPLY CO. ..... *Atlanta, Ga.*
SOUTHWESTERN PRINTERS SUPPLY, INC. ..... *Dallas, Texas*
SEARS LIMITED ..... *Toronto, Montreal, Winnipeg, Vancouver*

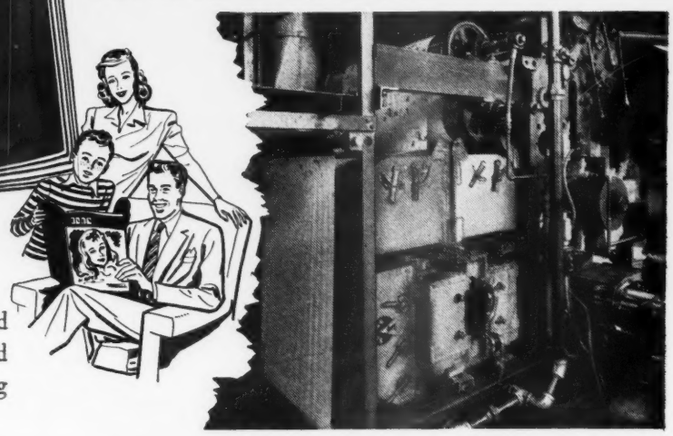
MAIN OFFICE AND SHOWROOM: 426c WEST 33rd ST., NEW YORK 1, N. Y.

PIONEERS IN PAPER CUTTING MACHINERY SINCE 1898

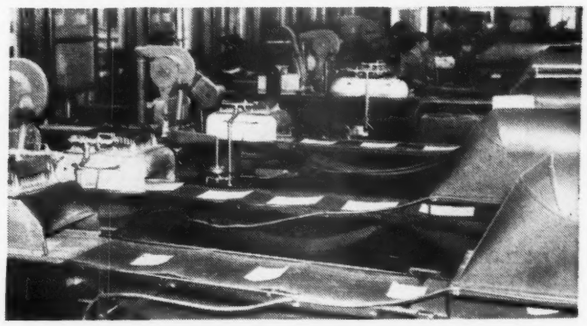
THROUGHOUT THE *Graphic Arts* When You Need Heat, You Need GAS



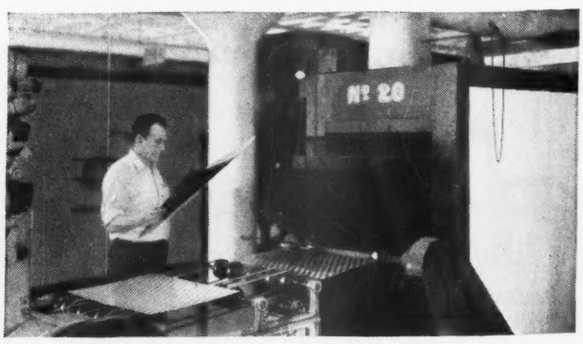
In the modern plant of a great southern newspaper this stereotype machine is always ready for action because it is Gas-fired and automatically controlled.



Mounted right in the press, this Gas-fired ink-drying unit has increased production and increased plate life in a specialty lithographing plant.



Fast drying at high temperatures is essential to the production-line processing of embossed printing—Gas-fired equipment provides the necessary heat for polymerization.



One of the largest manufacturers of closures uses this specially-designed tunnel dryer for drying of lithography on tin-plate.

Throughout the fields of printing and publishing, and in all the related phases of the graphic arts, GAS and modern Gas Equipment perform the myriad heating tasks so vital to datelines and deadlines.

Behind the scenes in newspaper plants, magazine printing establishments, commercial and specialty houses, book binderies, the productive flames of GAS serve efficiently and economically in heating operations such as:

- **Ink Drying**
- **Wax Melting**
- **Stereotype Production**
- **Paper Curing**
- **Embossing**
- **Type Metal Melting**

But these are not the only possible GAS applications in the graphic arts industry. In fact, GAS is the ideal fuel for all types of heating operations because modern Gas Equipment is so flexible, time-saving and labor-saving.

In your modernization planning there's a definite place for GAS and modern Gas Equipment—and that's where your local Gas Company Representative can be very helpful.

AMERICAN GAS ASSOCIATION
420 LEXINGTON AVENUE, NEW YORK 17, N. Y.

MORE AND MORE...
THE TREND IS TO GAS
FOR ALL INDUSTRIAL HEATING

Pre-register your color plates before they reach the pressroom with

Easy, economical, practical multi-color printing for daily newspapers comes a big step closer now that the Wood PRE-Registering Machine provides new "light-ray" control. Cross-hairs, projected from light-source indicators, match exactly the register marks of plates in a set of color stereotypes. Operator only adjusts indicators for first plate in a series—he merely positions following plates so that register marks coincide with light rays. New simplicity, speed, exactitude of register result . . . Color plates are trimmed, in precise register, and reach the pressroom ready to lock-up and run. If you're thinking about the sales advantages of multi-color printing, think about the many benefits of the Wood PRE-Registering Machine with amazing new "light-ray" control. For information write Wood Newspaper Machinery Corporation, Plainfield, N. J. Executive offices, 501 Fifth Avenue, New York 17, N. Y.

WOOD PRE-Registering Machine

IF IT'S Wood IT'S GOOD

The End of the Beginning

Practically everything you buy for your business—presses, paper, ink . . . and type metal—is merely a means to an end. That end is profitable printing production. To gain it you buy with an eye to reputation for dependable, predictable performance. In the field of type metals, Blatchford is the name to buy by. Produced from good, clean metals, alloyed by men wise in the ways of metal-mating, serviced by a staff that knows the business inside out, Blatchford Metal can be counted on to do a truly cooperative job. It melts uniformly, flows freely, casts sharply and prints clearly. Dross losses are *low*. Buy Blatchford and you buy dependable results.

NATIONAL LEAD COMPANY
BALTIMORE • CHICAGO • CINCINNATI • ST. LOUIS
NATIONAL LEAD CO. OF MASS., BOSTON
AMERICAN LEAD CORP., INDIANAPOLIS
E. W. BLATCHFORD CO., NEW YORK
ATLANTA: GEORGIA LEAD WORKS (Div. of Cincinnati Branch)
MORRIS P. KIRK & SON, INC., LOS ANGELES

Blatchford METAL

NEW

CHALLENGE Series K PROOF PRESS

There's nothing like it—a brand new series of Challenge Proof Presses—3 Styles—cylinder press design. The cylinder revolves while the reciprocating bed rides on anti-friction rollers, assuring accurate, unyielding impressions and very easy operation.

Sheets are fed to cylinder grippers and a micrometer side guide. A foot trip prevents offset on the cylinder packing during the return stroke of the press. The feed board slides back to provide clear access to cylinder packing. Grippers can be opened at any position of cylinder to release printed sheet.

Two sizes handle anything from an ordinary galley proof up to 14½"x23½" or 19½"x23½". Sold as shown (Style KE) with 20" ink distributor or (Style K) with ink plate only; also (Style KA) with automatic inker. All machines are equipped with feed board, delivery board, and a zinc galley plate for proofing forms when removed from the galley. Write for complete data at once!

THE CHALLENGE MACHINERY COMPANY

Main Office and Factory:
GRAND HAVEN, MICHIGAN

Challenge

"Over 50 Years in Service of the Graphic Arts"

DEALERS IN ALL PRINCIPAL CITIES

1663

Your Proof Is in Your Printing!

● Letterpress or offset, it's the fidelity of reproduction of fine halftones, solids and lines that determines quality printing. Daycos combine fine printing with production "sureness" that eliminates a lot of costly down time. Dayco's velvety-smooth surface picks up and deposits inks in just the right places—even if those inks are of the difficult types which fight ordinary rollers. Maintaining true circumference throughout seasonal changes, Daycos are unaffected by oil, heat or murderous speed runs. Carefully compounded, Daycos are made to your particular requirements. So get set for more profitable press runs, with the roller that outlasts ordinary rollers four to one! For better printing, *at lower cost per month*, write: *Dayton Rubber, Dayton, O.*

dayco

ROLLERS FOR THE PRINTING INDUSTRY

by **Dayton Rubber**

The Originators and Pioneers of Synthetic Rubber Printing and Lithographic Rollers

Write for Your Free Copy of this New Bulletin

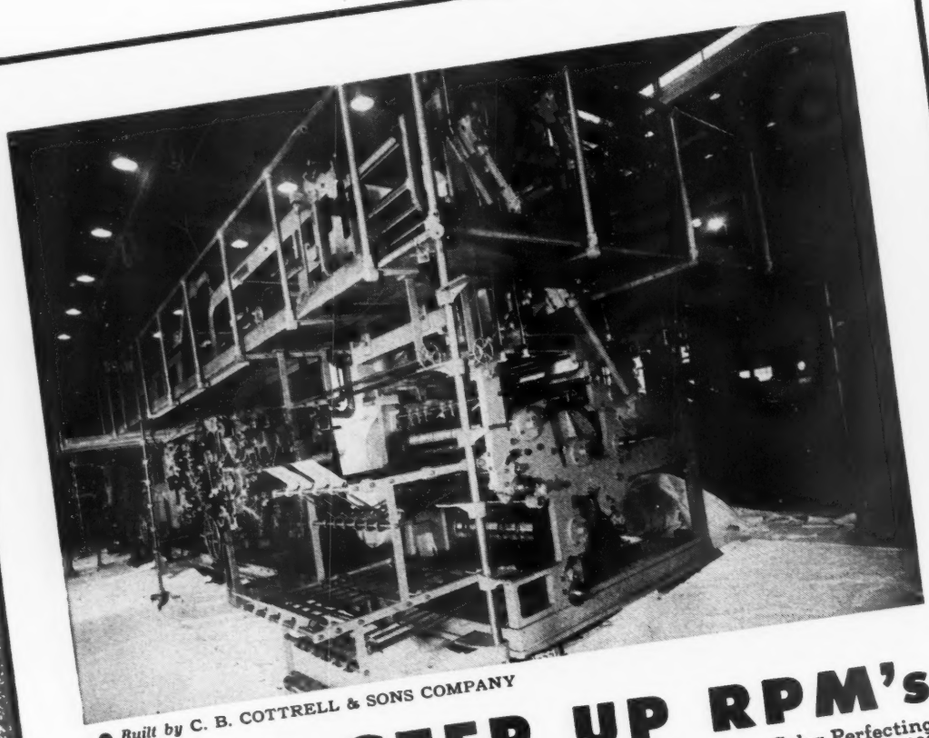
In the eight fact-filled pages of this bulletin are all of the important details you should have about Rosback Saddle Gang Stitchers.

Included are descriptions of the machines, their operation, their production possibilities and their other advantages. Included also are photo-descriptions of the easy four-step method for setting Rosback Saddle Gang Stitchers to jobs of various sizes and types plus complete specifications covering size range and capacity, floor area requirements, etc.

A copy of this new bulletin will be placed in your hands, at your request and without obligation. Ask your nearest Rosback Dealer, or write direct to us.

F. P. ROSBACK COMPANY • Benton Harbor, Mich.

WORLD'S LARGEST MANUFACTURERS OF PERFORATORS, GANG STITCHERS AND PAPER DRILLING AND PUNCHING MACHINES



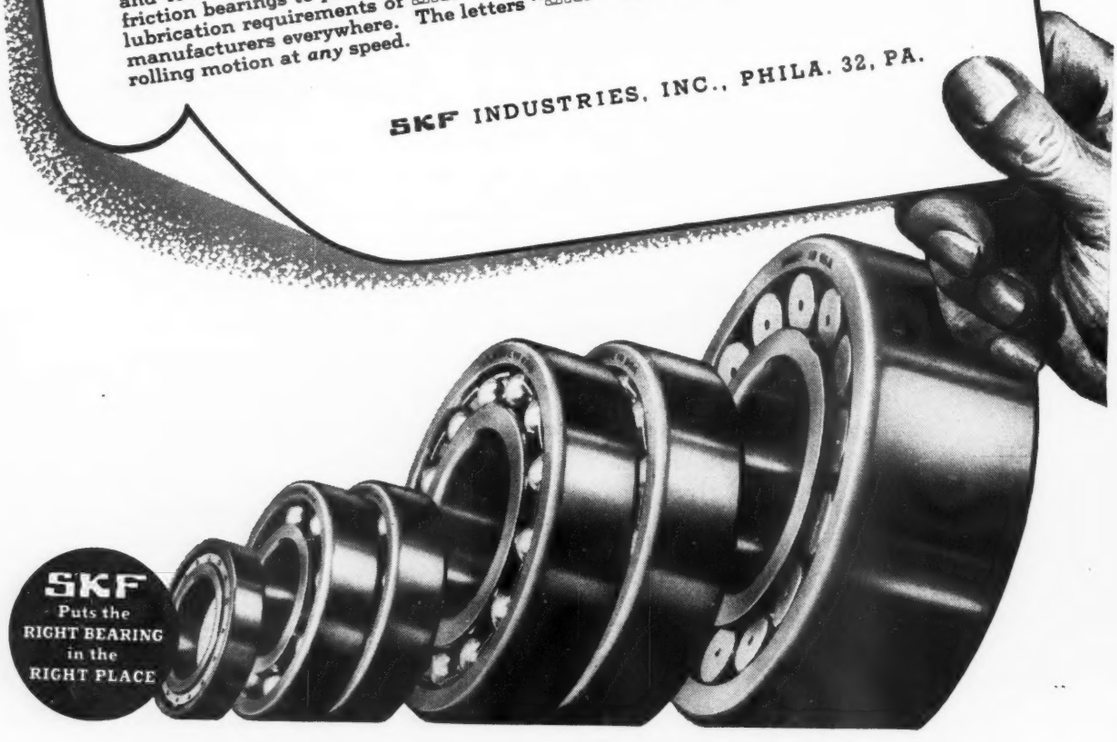
● *Built by* C. B. COTTRELL & SONS COMPANY

THEY STEP UP RPM's

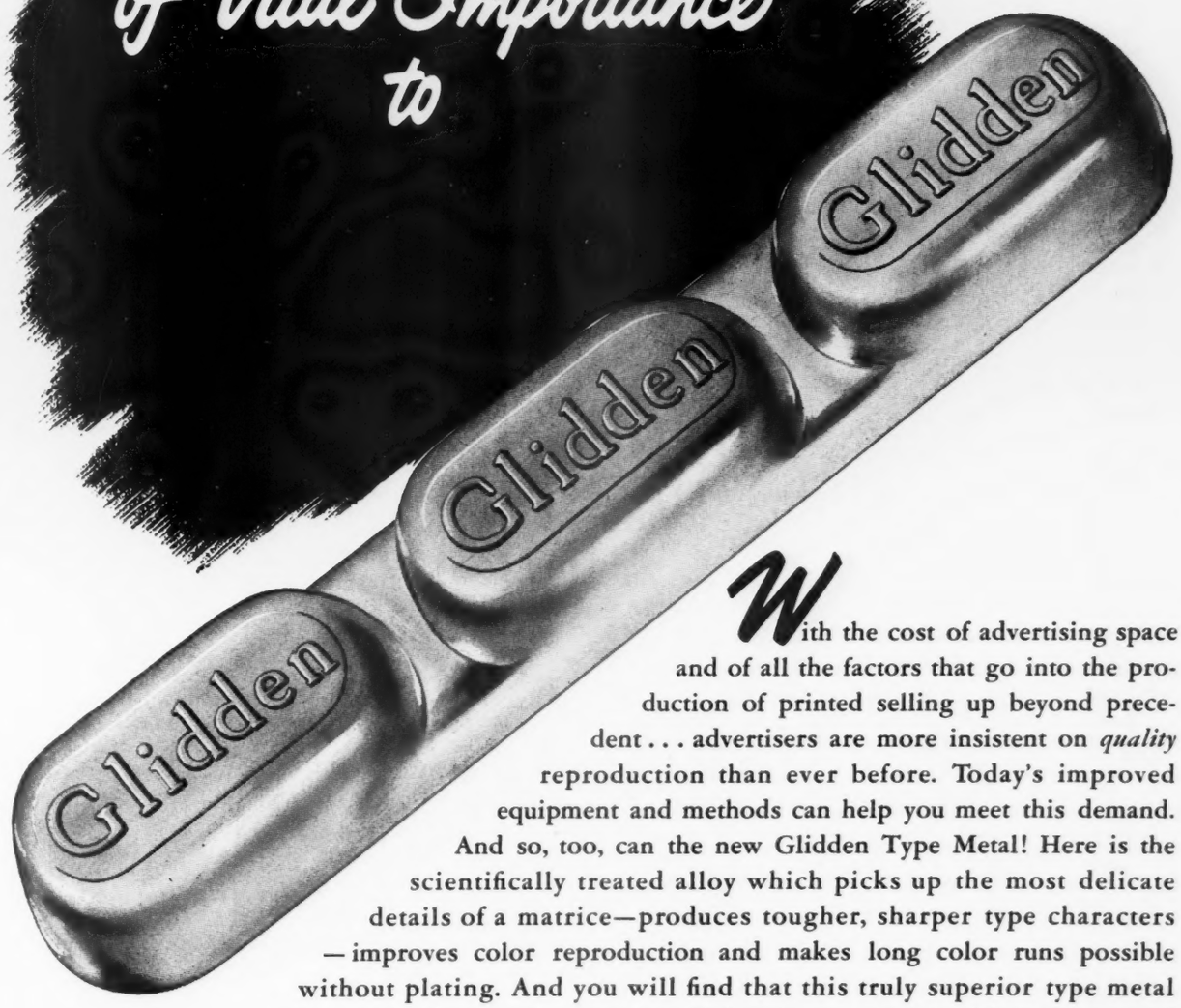
Equipped with SKF Spherical Roller Bearings, this Rotary Five-Color Perfecting Web Press has a maximum capacity of 40 pages, and delivers at this capacity 33,000 twenty-page folded books per hour. Printing presses can be designed for high speed operation when SKF Bearings are used because, in addition to assuring correct cylinder alignment, SKF Bearings reduce friction to a vanishing point. They assure accurate register and impressions, low starting torque, quick pick-up, and low maintenance costs. Ever since SKF pioneered the application of anti-friction bearings to printing presses, the high capacity, rolling alignment and low lubrication requirements of SKF Bearings have won many friends among press manufacturers everywhere. The letters "SKF" are *your* warranty of dependable rolling motion at *any* speed.

6495

SKF INDUSTRIES, INC., PHILA. 32, PA.



a Message of Vital Importance to



With the cost of advertising space and of all the factors that go into the production of printed selling up beyond precedent . . . advertisers are more insistent on *quality* reproduction than ever before. Today's improved equipment and methods can help you meet this demand. And so, too, can the new Glidden Type Metal! Here is the scientifically treated alloy which picks up the most delicate details of a matrice—produces tougher, sharper type characters —improves color reproduction and makes long color runs possible without plating. And you will find that this truly superior type metal offers such advantages at a substantial savings to you in fabricating costs!

Write for further details now.

Glidden

FINE TYPE METAL

METALS REFINING COMPANY

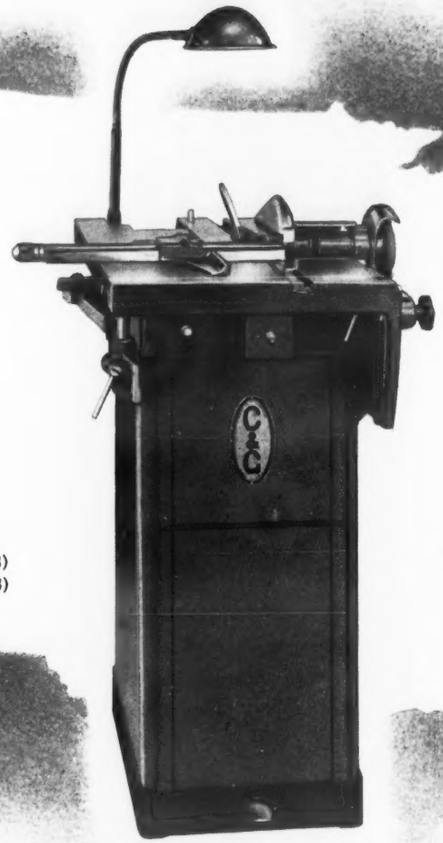
Division of The Glidden Company

HAMMOND, INDIANA

QUALITY Glidden PRODUCTS

FACTUAL INFORMATION ON REQUEST • STOCKS IN PRINCIPAL CITIES

Model 3-A C & G Saw Trimmers Cutting Composing Room Costs



Great Falls Tribune (5)
Walla Walla Union Bulletin (2)
Portland Journal (2)
Peoria Journal Star (3)
Springfield (Ill.) State Journal (3)
Sacramento Union (2)
San Jose Mercury Herald (3)
Kansas City Star (4)
St. Louis Globe Democrat (14)
St. Louis Post Dispatch (13)
Wichita Eagle (3)
Wichita Beacon (2)
Los Angeles Examiner (4)
Tulsa World (5)
Oklahoma City Oklahoman (4)
Little Rock Democrat (4)
San Diego Journal (2)
Phoenix Arizona Times (4)
Dallas News (11)
Dallas Times Herald (6)
Fort Worth Star Telegram (3)
New Orleans Times Picayune (8)
Houston Chronicle (8)
Houston Post (4)

(13) New York Times
(5) New York Herald Tribune
(5) New York World Telegram
(9) Buffalo Evening News
(5) New Haven Register
(2) Detroit Free Press
(10) Detroit News
(6) Detroit Times
(5) Newark (Ohio) Advocate
(4) Elizabeth Journal
(5) Cleveland Press
(11) Cleveland Plain Dealer
(13) Milwaukee Journal
(7) Chicago Daily News
(3) Chicago Herald American
(3) South Bend Tribune
(9) Indianapolis Star
(3) Philadelphia Inquirer
(11) Pittsburgh Press
(8) Fort Wayne Journal Gazette
(4) Fort Wayne News Sentinel
(4) Baltimore News American
(3) Columbus Dispatch
(2) Washington D.C. Daily News
(6) Cincinnati Post
(6) Cincinnati Inquirer
(2) Cincinnati Times Star
(6) Nashville Banner
(2) Birmingham Post
(2) Jacksonville Times Union
(4) Orlando Sentinel Star
(2) St. Petersburg Independent
(3) St. Petersburg Times
(3) Miami Daily News

Coast to Coast

You can meet tight production schedules and cut costs by installing the C & G No. 3-A Saw Trimmer.

Write for detailed specifications and prices.

THE Morrison COMPANY

125 W. MELVINA STREET • MILWAUKEE 12, WISCONSIN

C & G Saw Trimmers Cut Costs . . . C & G Saw Trimmers Cut Costs . . . C & G Saw Trimmers Cut Costs . . . C & G Saw Trimmers Cut Costs . . . C & G Saw Trimmers Cut Costs . . . C & G Saw Trimmers Cut Costs . . . C & G Saw Trimmers Cut Costs . . . C & G Saw Trimmers Cut Costs . . . C & G Saw Trimmers Cut Costs . . . C & G Saw Trimmers Cut Costs . . . C & G Saw Trimmers Cut Costs . . . C & G Saw Trimmers Cut Costs

Now! A new Timken® bearing with "run-out" reduced by half!

New Timken "Double-Zero" bearing opens the way to new standards of accuracy in high precision applications

THE most accurate Timken bearing on the market until now has been the "*Zero*" bearing, having a maximum run-out tolerance of only 150 millionths of an inch, the average run-out being well under this figure.

Now The Timken Roller Bearing Company is offering industry a new bearing *twice as accurate* as the "Zero" . . . *twice as accurate as the most accurate Timken bearing previously made!*

It's the new Timken "*Double-Zero*" bearing. Maximum run-out, 75 millionths of an inch. Average run-out well under this.

Here's an opportunity for new standards of precision in machine tools, scientific instruments . . . wherever extreme accuracy is essential.

Based on 49 Years' Experience

For the past 49 years, Timken has continually improved the efficiency and accuracy of Timken tapered roller bearings. Hardly a year has gone by without some notable improvement in Timken bearing performance. The development of the "Double-Zero" bearing is based on this 49 years' experience in manufacturing progress.

Advantages To Be Widespread

Wherever high precision is a factor, the new Timken "Double-Zero" bearing opens the way for improved product performance throughout industry. In machine tools, for example, the "Double-Zero" bearing will permit working to much closer tolerances than are now possible. In scientific instruments, the new Timken bearing will insure a new degree of precision that will raise the limits of accuracy in laboratories everywhere.

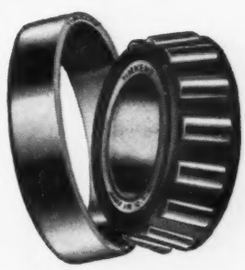
Although the "Double-Zero" bearing is now limited in supply, manufacturing facilities are being increased as rapidly as possible. The "Double-Zero" bearing is the latest example of Timken leadership in serving the bearing needs of all industry . . . one more reason why it pays to look for the trade-mark "Timken" on every bearing you use. The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO".

A PRECISION TIMKEN BEARING FOR EVERY REQUIREMENT

CLASS	"00" (Double-Zero)	"0" (Zero)	"3" (Three)
Run-out	.000075"	.000150"	.000300"
Types available	Standard Single Row	Standard Single Row	All types
Size range	Up to 10" O.D.	Up to 12" O.D.	Up to 12" O.D.

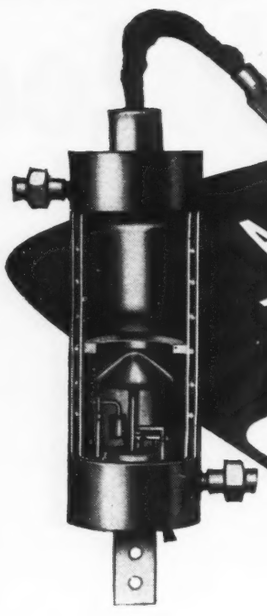
TIMKEN
TRADE-MARK REG. U. S. PAT. OFF.

TAPERED ROLLER BEARINGS



NOT JUST A BALL ○ NOT JUST A ROLLER ▭ THE TIMKEN TAPERED ROLLER ▭ BEARING TAKES RADIAL ◫ AND THRUST →◫← LOADS OR ANY COMBINATION →✳←

GE ELECTRONIC PRESS DRIVE



A NEW WAY TO PRINT THE NEWS... THROUGH A SIMPLE ELECTRONIC TUBE

The ignitron tube above converts a-c power for d-c drive motors—is the control and power headquarters for the new General Electric electronic press drive. This modern drive provides closer speed control and more flexibility at **less cost,** compared with conventional a-c drives. The drive is designed around the co-ordinated load-center method of power distribution which saves heavy-wiring costs and critical materials.

Power savings alone range from zero at maximum geared speed to 50 per cent at half speed.

Space is saved and maintenance costs reduced because auxiliary threading motor, slow gearing motor, over-running clutch, two-speed gears and drive brakes are eliminated.

Constant running speed is independent of load changes. The G-E electronic press drive has the advantages of stepless speed control from threading speed to maximum speed, with stable shunt-speed regulation at any point.

Smooth jogging and running operations are performed without contactor or switching operations. Control maintenance is reduced to a minimum.

Load resistor losses are eliminated and heat dissipation is no longer a major expense.

Maintenance costs are reduced because no heavy rotating machinery is required. Electronic power and control apparatus is static.

EVERYTHING ELECTRIC FOR THE PRINTING INDUSTRY

Consider the advantages of purchasing all your electric equipment—glue pots to press drives—from General Electric. It will simplify your designing, buying, installation and service problems. All the components of your plant will dovetail together to form an attractive and efficient operation unit. Call or write your local G-E sales office. ***Apparatus Department, General Electric Company, Schenectady 5, N. Y.***

Have you seen the G-E color sound slidefilm "Modern Industrial Power Distribution"—a More Power to America project designed to aid American industry achieve greater productivity. Ask your local G-E office to arrange for its showing in your area.

Apparatus Department, Sec. C658-26
General Electric Company
Schenectady 5, New York

Please send me bulletin GEA-4670 on the new G-E electronic press drive.

Name.....

Paper.....

City..... State.....

GENERAL ELECTRIC

NOT A SIDELINE
But our ONLY LINE
GRAPHIC ARTS METALS

There is plenty to do in serving "only" the Graphic Arts Industry—and that is why Imperial sticks to this one line of activity. Your interests are our interests; your welfare and your needs are our sole concern. By this policy we believe we can give better service and superior metals so that your production is smoother, your quality better and your metal supplies will continue to come from Imperial.

IMPERIAL TYPE METAL CO.

Serving the Graphic Arts Industry Only

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WELCOME TO CLEVELAND

You'll find attendance at the 1948 Cleveland Convention of the International Association of Printing House Craftsmen not only an enjoyable experience, but also instructive and profitable. While you are in Cleveland we hope you'll find time also to visit us.

We are only a short distance from Convention headquarters. Just step out of the Superior Avenue entrance of Hotel Cleveland, walk left to West 6th Street, then turn right for three blocks more. Our office is on the eighth floor.

Here we'll be glad to show you the complete line of Doyle Infrared Sheet Dryers and Doyle Vacuum Sheet Cleaners, and answer any questions you may have.

the* J. E. DOYLE *company

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TYPE METAL REMELTING FURNACES

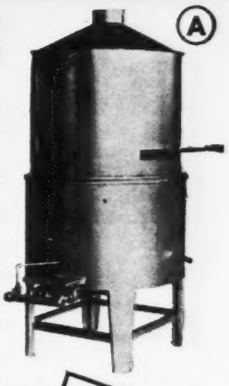
(A) 'Surface' Type Metal Remelting Furnace equipped with Atmospheric Burner and hood. Available in capacities up to 2500 pounds of metal.

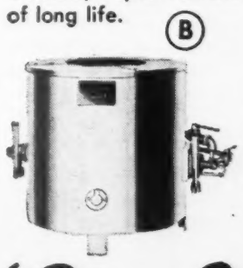
(B) 'Surface' Type Metal Remelting Furnace equipped with Pressure Burner. Available in capacities up to 3200 pounds of metal.

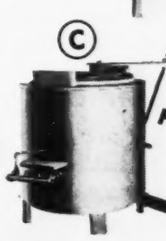
(C) Furnace equipped with atmospheric burner and bottom outlet.

(All types can be equipped with hood)

'Surface' Gas-Fired Furnaces for type metal remelting are designed to provide the industry with an efficient, rapid remelting furnace of long life.







WRITE FOR BULLETIN SC-130

2634A

'Surface' ***Standard Rated*** **FURNACES**

SURFACE COMBUSTION CORPORATION, TOLEDO 1, OHIO

Compare!

for CLEANER IMPRESSIONS WITH LESS WEAR IT'S

TINGUE
TRADE MARK
PRINTING PRESS BLANKETS

TINGUE DRAWSHEETS

TOP

This drawsheet is firm, durable, economical and long-lived.

IMPROVED SATISFACTION

Coated with "Calvaprene" by du Pont, on a fabric which has been impregnated with "Neoprene."

GOLD TYMPAN CLOTH

An old favorite for flatbed presses. Skivered metallic surface accepts excess ink and flakes it off without smudging.

TINGUE UNDERBLANKETS

CUSHION CORK BLANKETS*

Highly resilient and recommended as the underpacking for "Combino" and Tingue coated Felt or in combination with Foundation Blanket where a drawsheet is used.

FOUNDATION BLANKET

A firm durable oilproof underpacking laminated by du Pont with "Neoprene" for use in combination with "Cushion Cork" and Tingue Drawsheets or Felt.

TINGUE COATED BLANKETS

TINGUE FELT

Available in your gauge and size with synthetic rubber coating.

COMBINO

A synthetic, laminated top blanket, extremely durable and a clean printer.

*Reg. U. S. Pat. Office

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FOLDING

DEXTER JOBBING FOLDER, DOUBLE SIXTEEN and QUADRUPLE SIXTEEN FOLDERS – For job work and book folding in sheets from 12x16" to 44x68".

VARNISHING CHRISTENSEN VARNISHING MACHINE – For all types of varnishing jobs.

SORTING DEXTER SORTING MACHINE – For paper mills. Speeds production and eliminates waste motion in coated paper and bond finishing rooms.

BRONZING CHRISTENSEN HIGH SPEED BRONZER – For all types of sheet bronzing.

Dexter & Christensen Machines

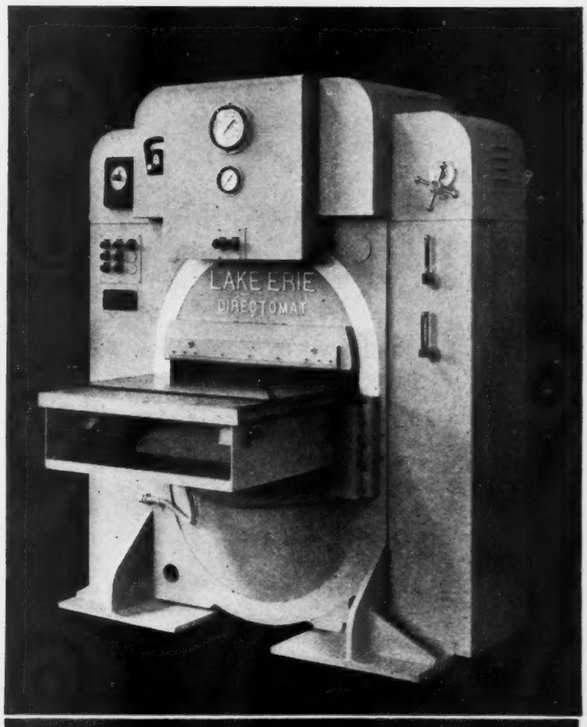
All Dexter and Christensen Products are sold and serviced by

DEXTER FOLDER COMPANY, General Sales Offices

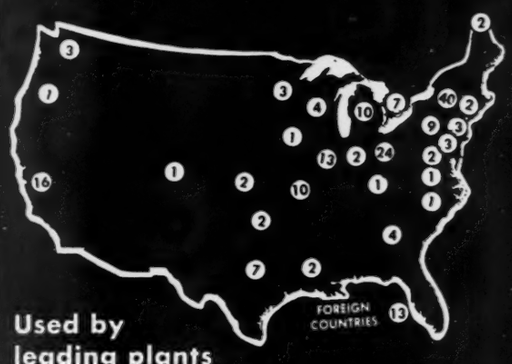
330 West 42nd Street, NEW YORK 18, N. Y.

CHRISTENSEN Machines *are built by Christensen Machine Company at Racine, Wisc.*

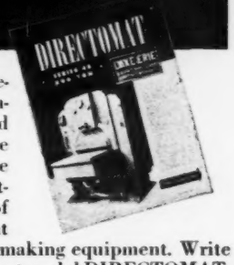
DEXTER Machines *are built by Dexter Folder Company of Pearl River, N. Y.*



DIRECTOMAT



Used by leading plants from coast to coast



Nearly 200 DIRECTOMATS are now being used by leading newspaper and commercial plants throughout the United States and foreign countries. And the number in service is increasing at the fastest rate ever. This unequalled acceptance by leading plants is practical proof that the DIRECTOMAT has important advantages over all other types of mat making equipment. Write today for descriptive literature on the latest model DIRECTOMAT.

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ENGINEERING CORP.
BUFFALO, N.Y. U.S.A.

LAKE ERIE Engineering Corp.

568 Woodward Avenue
Buffalo 17, N. Y.

Offices in Principal Cities and Foreign Countries

Leading manufacturer of hydraulic presses—all sizes and types—stereotyping...plastics molding...processing...rubber vulcanizing ...metal working...forging...metal extrusion...special purpose.

Close-up of blanket cylinder, showing arrangement of plate cylinders on Goss Magazine Press

it's GOSS again

FIRST CHOICE IN MAGAZINE PRESSES

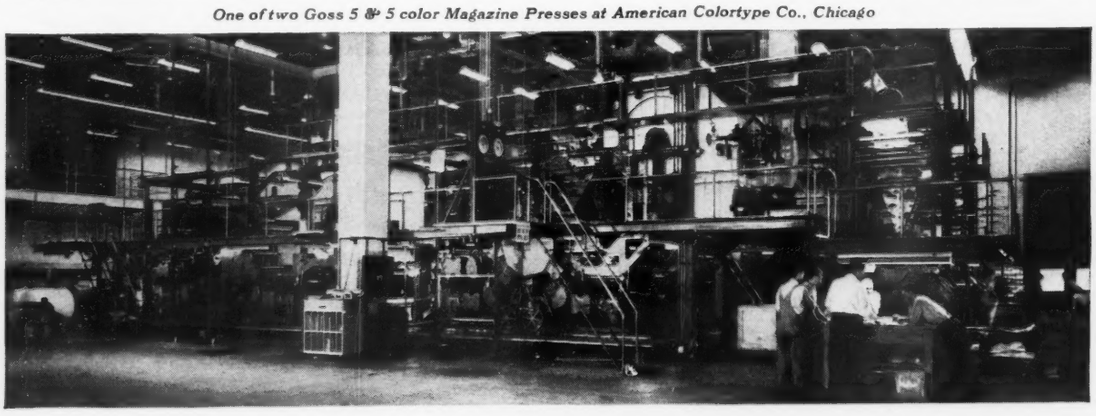
MORE and more of America's leading magazines are being printed on Goss Heavy Duty Rotary Presses. Built in single or double deck construction, these presses are arranged for two or four colors or for printing five colors on each side of the web in one operation at speeds up to 1200 feet per minute. All rotating parts are dynamically balanced and operate in anti-friction bearings. All drives have full oil enclosures. Every feature for high net production is included.

THE GOSS PRINTING PRESS CO.
1535 South Paulina Street, Chicago 8
Duplex Division: Battle Creek, Michigan
Goss Printing Press Co , Ltd., Preston, Eng.

Roll Call of Recent Goss Installations

McCall Corp., Dayton, Ohio—9 Magazine Presses (Four 40 pg. 5 & 5 color; two 144 pg. 5 & 5 color; three 64 pg. 2 & 2 color).
American Colortype Co., Chicago—Two 24 pg. 5 & 5 color Magazine Presses.
Rumford Press, Concord, N. H.—Two 144 pg. 5 & 5 color Magazine Presses.
Doubleday & Co., Hanover, Pa.—Two 64 pg. 2 & 2 color Magazine Presses.
Kable Brothers, Mt. Morris, Ill.—Two 32 pg. 2 & 2 color Magazine Presses.
C. T. Dearing Printing Co., Louisville—Two 64 pg. 2 & 2 color Magazine Presses.
American Federation of Musicians, Newark, N. J.—32 pg. 2 & 2 color Magazine Press.
Crowell-Collier Co., Springfield, Ohio—Two 7 unit Rotogravure Presses.
New York News—5 unit Rotogravure Press.
Pittsburgh Press—16 unit Multicolor Press.
Omaha World-Herald—8 unit Multicolor Press.
Western Printing & Lithograph Co., Poughkeepsie, N. Y.—8 unit Multicolor Press.
Kingsport (Tenn.) Press—64 pg. Book Press.

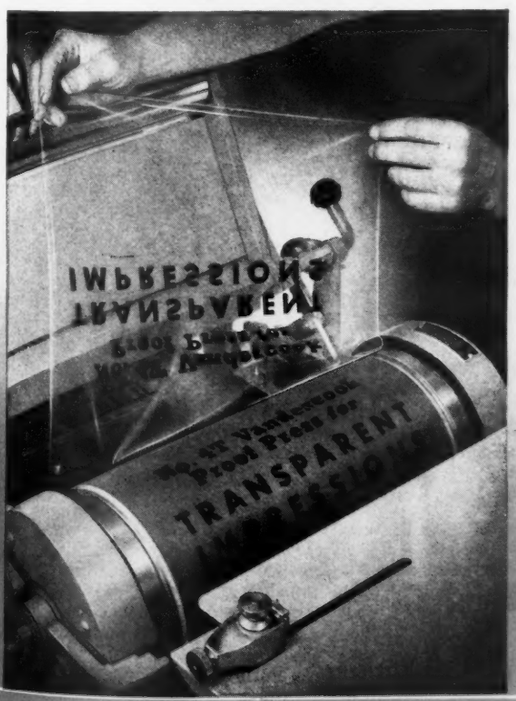
One of two Goss 5 & 5 color Magazine Presses at American Colortype Co., Chicago



Choose THE No. 4* VANDERCOOK PROOF PRESS FOR THE FINEST REPRODUCTION PROOFS

- *Power ink distribution.*
- *Changeable inking units reduce washup time and speed up changing colors.*
- *Extra heavy bed and cylinder to insure rigid, permanently accurate impressions.*
- *Micrometer front sheet guides.*
- *Combination foot operated and automatic grippers.*
- *Convenient tray for printed sheets, travels with cylinder.*

Or . . . the No. 4T for Transparent Proofs



This is the machine so widely preferred by typesetters, offset lithographers, rotogravure plants and others who demand top quality proofs for reproduction purposes. Or, they choose the No. 4T Vandercook for proving two sides of transparent material like cellophane or glassine. Both machines represent a wise investment — one that will pay immediate dividends in production, improved quality, increased efficiency, and lower operating costs.

** One of the 14 Vandercook Proof Presses sold exclusively in the U. S. A. by Vandercook & Sons, Inc.*

VANDERCOOK PRE-PRESS EQUIPMENT

VANDERCOOK & SONS, INC.

General Offices—900 North Kilpatrick Avenue, Chicago 51, Illinois

Eastern Branch—216 East 45th Street, New York 17, New York

Western Branch—1151 South Broadway, Los Angeles 15, California

When in Chicago . . . visit our Display Room, 630 South Dearborn Street, to see the latest Vandercook Equipment in operation.

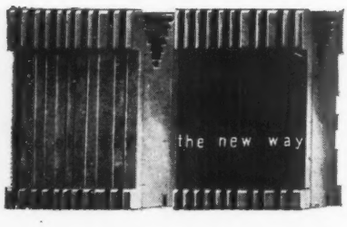
Leading Papers

FROM COAST-TO-COAST USE MATRIX CONTRAST SERVICE

Leading newspapers and other outstanding printing houses everywhere are reducing eyestrain, errors and production costs with simple, inexpensive Matrix Contrast Service. Processed reference marks, available in black-and-white *and* in colors, mean trigger-quick recognition of errors... *before* the lines are cast.

Matrix Contrast Service makes your matrices easy to read, easy to scan for possible errors. The *new* color processing makes spotting wrong fonts a matter of seconds. With fonts processed in different colors, it's a cinch to find a wrong-font letter that has slipped in accidentally.

Write to our nearest office today for the complete story on the use of Matrix Contrast Service.

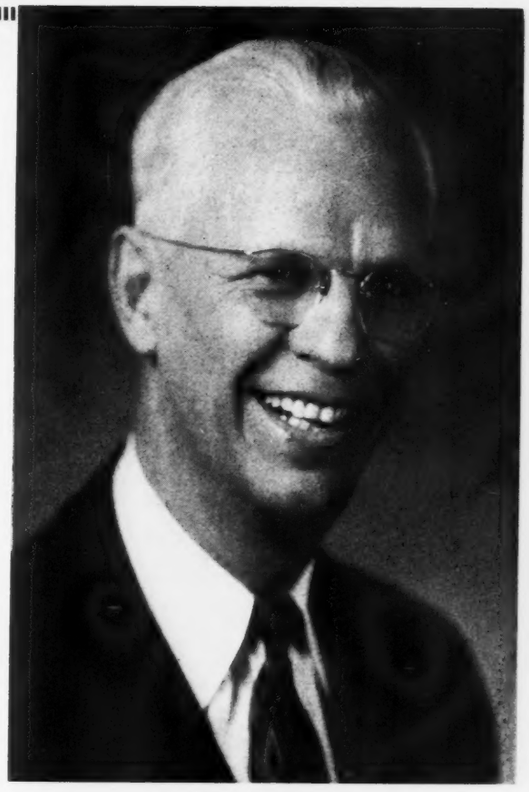


MATRIX CONTRAST CORPORATION, Empire State Building, New York 1, N. Y. — 326 W. Madison Street, Chicago 6, Ill.—1105 Trenton Street, Los Angeles 15, Calif.—Sole licensees of the Percy L. Hill Matrix Contrast Patent No. 1,796,023, other patent pending. European Agents: Funditor, Ltd., 3 Woodbridge Street, Clerkenwell Green, London, E. C. 1.

Matrix Contrast Service

Official Family

International Association of Printing House Craftsmen, Incorporated



A. GORDON RUITER
Intl. President

Affable in superlative degree, President Ruiter presides over deliberations of International Association convention. During past year, he has traveled much to give local clubs from coast to coast a personal look. He's Superintendent, Forbes Lithograph Co., Boston.

GRADIE OAKES
Intl. First Vice President

Serious minded, but courteous at all times, First Vice President Gradie Oakes will be next year's President. He's President and General Manager of Chicago's Process Color Plate Co., makes printing plates by several processes.

FRED C. BAILLIE
Intl. Third Vice President

A popular guy from Canada, Third Vice President Fred Baillie holds the esteem of his fellows in the International Association. Is Superintendent of Canadian Bank Note Co. Ltd., Ottawa, produces bank notes, bonds, stamps, stock certificates.

RUSSELL J. HOGAN
Intl. Second Vice President

Champion of the letterpress printing process (without undue prejudice), Hogan is Second Vice President. He's Plant Manager for The Blanchard Press, New York. Shares knowledge with local Craftsmen's Clubs. Rated top notch printing instructor.

EDWARD T. SAMUEL
Intl. Treasurer

No one has complained Intl. Treasurer Edward T. Samuel doesn't keep the Intl.'s books in perfect order, because there's no occasion to do so. Samuel is President and General Manager of the successful printing firm of Samuel & Walker, Cleveland.

PEARL E. OLDT
Intl. Executive Secretary

Educator turned Intl. Executive Secretary, Pearl E. Oldt has been on job more than a year. Strictly an extrovert (pardon our liberties in using the word—you'll get the meaning) Oldt cements membership wherever possible.

RUSSELL L. OLANDER
Chairman of the Intl. Publications Commission

Most International members don't have a chance to see Olander at work. If they did, they'd say he's mighty industrious. Edits *Share Your Knowledge Review*. President and General Manager of the Olander Press in Glen Ellyn, Ill.

Official

W. H. (Bud) GRIFFIN
Intl. Junior Past President

Equipped with boundless physical and mental energy, W. H. (Bud) Griffin became associated with Mergenthaler Linotype Co. as Director of Sales immediately following the 1947 annual convention in Saratoga Springs, N. Y.

J. HOMER WINKLER
Chairman, Intl. Educational and Research Commission

Having delivered over 40 addresses to local Craftsmen's Clubs, Chairman Winkler now has an extremely wide acquaintanceship among the members. He's Technical Director, Graphic Arts Dept., Battelle Memorial Institute, Columbus.

GORDON J. HOLMQUIST
Chairman, Intl. Public Relations Commission

Gordon J. Holmquist, as is indicated by his title, likes to promote Craftsmen objectives. His current activity is in getting local Craftsmen's Clubs to participate in Printing Week observances. Partner in Cole-Holmquist Press, Los Angeles.

EDWARD H. CHRISTENSEN
Chairman, Intl. Club Bulletin Service

In charge of the Intl.'s Club Bulletin contest and its sparkplug is Edward H. Christensen. He is Production Manager for Central Typesetting and Electrotyping Co., Chicago. Is a member of Frazier's Typographers of whom you've heard.

DeWITT A. PATTERSON
Intl. Foreign Representative

DeWitt A. Patterson has been associated with the Association a long time. He has served it well. At one time he was a Vice President. During the war he was Managing Director, Intl. Pub. Div., Crowell-Collier Pub. Co.

WALTER F. SCHULTZ
Chairman, Intl. Manuals and Historical Publications Committee

Past Intl. President Walter F. Schultz's interest in Craftsmanship has not waned. Currently, he is Associate Editor with Farm and Ranch Pub. Co., Dallas, Texas. The new Manual of Craftsmanship was prepared by him. His writings are many.

Family

JOHN L. REAY
Intl. Representative-at-Large

Intl. Representative-at-Large John L. Reay must wear well. He has been with Braden-Sutphin Ink Co. for 15 years. He's now Executive Vice President and Sales Manager. Gets around the country and promotes Craftsmanship at all times.

JOHN R. DONOHUE
First District Representative

(First District is comprised of the following clubs: Boston, Connecticut Valley, Merrimack Valley New Haven District, Providence, Worcester County.)

John R. Donohue is Boston Branch Manager for Sinclair & Valentine Co. His association with company extends over a 34 year period. He's a member of the Boston Club.

VICTOR VAN AUDENHOVE
Second District Representative

(Second District is comprised of the following clubs: Adirondack, Albany, Newark, New York and Utica.)

Victor Van Audenhove, like his First District Representative associate, is also a Branch Manager for the Sinclair & Valentine Co., but headquarters in Albany, N. Y.

A. NORMAN CLEMENT
Third District Representative

(Third District is comprised of the following clubs: Buffalo, Montreal, Ottawa, Rochester and Toronto.)

A. Norman Clement is in charge of Rochester's Board of Education Print Shop and Bindery. Is a Past President of home club. Likes clockmaking, horticulture, photography, cabinet-making.

C. R. (Mac) McCLURE
Fourth District Representative

OLLIE G. FRICKE
Fifth District Representative

(Fifth District is comprised of the following clubs: Cincinnati, Cleveland, Columbus, Dayton, Detroit, Grand Rapids, Indianapolis, Louisville, Pittsburgh and Toledo, and possibly by now Fort Wayne, Ind.)

Ollie G. Fricke is a perennial—he's been Fifth District Representative for many years, along with his duties as Vice President of Sinclair & Valentine Co. in Dayton, O.

ROBERT R. POLLOCK
Fourth District Deputy

(Fourth District is comprised of the following clubs: Baltimore, Lehigh Valley, Philadelphia, Richmond, Washington and York.)

At upper center we again present the portrait of Fourth District Representative C. R. (Mac) McClure. He's foreman of the pressroom, Bureau of Engraving and Printing, Washington, D. C.

At left is Robert R. Pollock, Fourth District Deputy, who is connected with Godfrey Roller Co., Philadelphia, in a sales capacity. Has been associated with the company 15 years.

FIELDING A. UTZ
Sixth District Representative

(Sixth District is comprised of the following clubs: Chicago, Five County, Milwaukee-Racine, Peoria and Rock River Valley.)

The leisurely gentleman in the accompanying picture is Fielding A. Utz. He is President of Milwaukee Printers Roller Co. Is a member of the Milwaukee-Racine Club.

JOE McCONNAUGHEY, Jr.
Seventh District Representative

(Seventh District is composed of the following clubs: Atlanta, Jacksonville, Little Rock, Memphis, Miami, and Nashville.)

Joe McConnaughey, jr., is Harris-Seybold Co.'s Southeastern Sales Representative. Is a member of Atlanta club. Likes photography and flying. He was an AAF pilot in recent war.

ELMER LEACH
Eighth District Representative

(Eighth District is comprised of the following clubs: Central Illinois, Des Moines, Kansas City, Omaha, St. Louis, Topeka, Waterloo and Wichita.)

Elmer Leach is proprietor of the Leach Printing Co., Des Moines, Ia. Quiet and soft-spoken, he has attended many Craftsmen's Conventions. Gives serious attention to deliberations.

RUDOLPH ERNST
Tenth District Representative

(Tenth District is comprised of the following clubs: Portland, Seattle and Vancouver.)

Rudolph Ernst has been associated with Metropolitan Printing Co., Portland, Ore., since 1934. Is bindery foreman. Past President of Portland Club. Hobbies—hand binding and fishing.

CHARLES B. WEIMER
Ninth District Representative

(Ninth District is comprised of the following clubs: Dallas, Fort Worth, Houston-Galveston and San Antonio, Tex.; Tulsa, Okla.)

Manager of the Printing Dept. of The Clegg Co., San Antonio, Tex., is Charles B. Weimer. In his district he's equal to the chore of traveling distances to inspect clubs.

HAYWOOD H. HUNT
Eleventh District Representative

(Eleventh District is comprised of the following clubs: Honolulu, H.I., Sacramento and San Francisco.)

Lovable Haywood H. Hunt, San Francisco, dotes on the title: Typographer and Printer. Hoisted "his own flag" in 1940 when he went into business. Formerly edited *SYK Review*.

H. F. EDMONDS
Twelfth District Representative

(Twelfth District is comprised of the following clubs: Citrus Belt, Los Angeles, Phoenix and Santa Barbara.)

Mitchell & Herb Engraving Co., Los Angeles, claims H. F. (Bunny) Edmonds as its Secretary-Treasurer. Is a Past President of the Pacific Society of Printing House Craftsmen.

HERBERT THRELFALL
Thirteenth District Representative

(Thirteenth District is comprised of the following clubs: Cape Town, South Africa, and Havana, Cuba.)

Popular former Intl. Secretary Herbert Threlfall is General Manager of the John F. Greene Printing Co., Providence, R. I. Physically small, he's probably most popular Craftsman.

IVER F. PETERSON
Fourteenth District Representative

(Fourteenth District is comprised of the following clubs: Duluth-Superior, Minneapolis, St. Paul and Winnipeg.)

Vice President and Production Manager is the title of Craftsman Peterson with Stewart Taylor Co., Duluth, Minn. He grew up inside the plant, is thoroughly saturated with love of printing.

Commercial Rotogravure

Discussion upon development and use of roll-fed equipment in the Graphic Arts industry—Specific applications cited—Suitable for printing production where volume is involved

By ARTHUR F. GOAT*

**Vice President, Champlain Co., Inc., Bloomfield, N. J.*

IV.

DURING the past two decades the Graphic Arts Industry in the United States has changed from an extremely heavy proportion of letterpress production to include other methods of printing to facilitate the production of increased volume and specialty items. An example is the comparatively recent development of offset-lithography. While letterpress and offset represent the foremost methods of printing, other processes, where their use meets certain requirements, have also been introduced.

Letterpress and offset are each one in some way more ideally suited to certain types of production than the other. Neither process represents the only way to print. Each has its corresponding position in the Graphic Arts. Supplementary processes that have been running parallel to the trend of employing the most efficient process to meet specialized and varying requirements in printing are aniline, dry offset, sheet-fed gravure and rotogravure. Rotogravure has enjoyed its greatest growth in recent years. The process holds great promise for expansion in the future.

In this discussion, the writer treats the subject principally from the recent rotogravure press design standpoint. Presses before that time were totally inadequate to satisfy the new demands placed upon them.

Primarily, rotogravure was originally introduced into the United States for printing pictorial sections of newspapers. From this position, it graduated to the magazine publication field. Original presses were employed with the idea of achieving the maximum quality obtainable under conditions of maximum production. It is odd that the large high speed press equipment required in the publication field preceded in development the small rotogravure press used in the commercial field.

Arthur F. Goat, Vice President, Champlain Co., Inc., Bloomfield, N. J., authors the accompanying interesting article on commercial rotogravure.

Primary Reason for Development of Large Presses

The primary reason for the development of large web presses in the United

ROTOGRAVURE CYLINDER ETCHING DEPTHS

By Arthur F. Goat, Vice President, Champlain Co., Inc.

DUE to misconceptions regarding etching depths in the rotogravure platemaking process, a recent survey was taken among a number of platemaking houses. Information from individual sources is listed as follows:

Plant A—(commercial platemaking)—Usually use 150 line screen with 3 to 1 screen ratio and a maximum depth in solids of 0.0025 in. Occasionally, the etch goes as deep as 0.003 in. However, in using coarser screen, depths of etch as deep as 0.010 in. and 0.012 in. have been used. Generally speaking, a depth slightly over 0.003 in. can be obtained with 85 line screen.

Plant B—(commercial publication platemaking and printing)—Generally, different screens are used for different jobs and there is still a lot of experimental work to be done. Usually, a 150 line screen with a 3 to 1 ratio, and sometimes a 170 line screen with a 2½ to 1 ratio are used. The latter would be especially applicable for solids and type. In utilizing the Ballard shell method, a thickness of 0.005 in. is used and it is very seldom that a re-etch breaks through. Our belief is that solids are generally etched about 0.003 in. and very rarely go below 0.004 in. on re-etch.

Plant C—(commercial platemaking)—Usually use 150 line screen with a ratio of 3 to 1, but also use 175 line screen with a ratio of 2½ to 1. Recently a study of the depth of etch utilizing a special microscope determined that the average depth of solids was approximately .002 in. Occasionally, we have etched as deep as .015 in. with an 80 line screen having a 2 to 1 ratio.

Plant D—(newspaper supplement platemaking and printing)—Because of the special process employed in this plant, a letterpress screen is used on color work. However, on type a 175 line screen with a 2½ to 1 ratio is utilized. The depth is estimated to be slightly over 0.001 in. and we endeavor to use the minimum depth of etching possible. It is our belief that the depth very rarely exceeds 0.003 in. and that any increase over this figure will break down the screen walls. Utilizing a 0.006 in. Ballard shell, we have never experienced difficulty in break-through with re-etching.

From the above information it is apparent that the depth of etch generally used today with a normal 150 line screen, is between 2½ to 1 ratio and 3 to 1 ratio, rarely exceeds 0.003 in., and very likely is closer to 0.002 in. The depth of etch used for textiles exceeds the general depths of commercial printing and may go as high as 0.015 in. with coarse screens. This latter application of the process is remote from general printing and cannot be considered to apply to general intaglio work.

States prior to that of the smaller commercial press is that, until recently, there was little demand for web-fed printing for commercial products, while the publication field has used roll paper for a considerable number of years. With the tremendous increase in the volume of commercial printing and the change in packaging methods which began to occur during the middle 1920s, the primary stimuli for the development of small rotogravure presses was provided; food, pharmaceutical and candy products with distribution in the millions required production tonnage comparative to the publication field. This trend brought about a change in product requirements, which subsequently caused a change in existent equipment and development of new types of equipment.

With the increase in the market for package printing, a stimuli also caused the development of specialized packaging materials such as Cellophane, Pliofilm, glassine and foil. These new materials were also found to be difficult to print and handle, and much of the new packaging equipment dictated the use of roll feed.

First Impetus To Small Press

The first real impetus to the use of the smaller rotogravure presses came with the discovery that this printing process was suited to the printing of the new specialty materials such as Cellophane and foil. Early production was somewhat confined to the existent sheet-fed gravure equipment, but again, the difficulty of handling Cellophane or foil in sheet form dictated that web presses be utilized. Within a period of a few years, manufacturers were turning out the new rotary units, and the development of the modern gravure press was well on its way. It is doubtful as to whether rotogravure would have developed quickly were it not for its adaptability and suitability to these two materials.

With the development of specialized equipment, printing presented an obstacle. Existing presses did not lend themselves to incorporation with other machinery, and were not suited to immediate subsequent conversion of a printed sheet or web to its final utilitarian form. Primarily, this was because of inability to dry ink quickly enough to remove the danger of offset and smear.

The second impetus to the development of not only commercial gravure presses, but the continued development of publication presses, came not only

Data on Commercial Gravure Printing Industry

(In the first of the series of articles on the Rotogravure printing process by W. B. Thiele, published in the April issue of *Printing Equipment Engineer*, the editor made the following statement:

"... complete statistical figures pertaining to a growing industry do not seem to be available. Particularly in the commercial field, statistics are unobtainable."

(Since publication of these statements, *Printing Equipment Engineer* has obtained some data from reliable sources respecting rotogravure in the commercial field. We present it to our readers knowing that it was obtained through personal investigation without benefit of survey or through Department of Commerce sources.)

IN CONSIDERING these figures, the reader should understand that use of the rotogravure process has recently began to expand. As an example, one manufacturer reports he has been delivering presses at the rate of one or more per week for over a year.

300 Commercial Presses Apparently, there are at least 185 firms in the United States operating a total of 300 presses, who employ the rotogravure printing process in the commercial field. Products produced range from the extreme specialty field as represented by decalcomanias, artificial leather, and the like, through application as exemplified by the production of wrappers, labels, and the like. The number of presses operated by each of these firms ranges from an estimated 30 to a single small press printing one or two colors. There is a possible total of 300 existent presses in use.

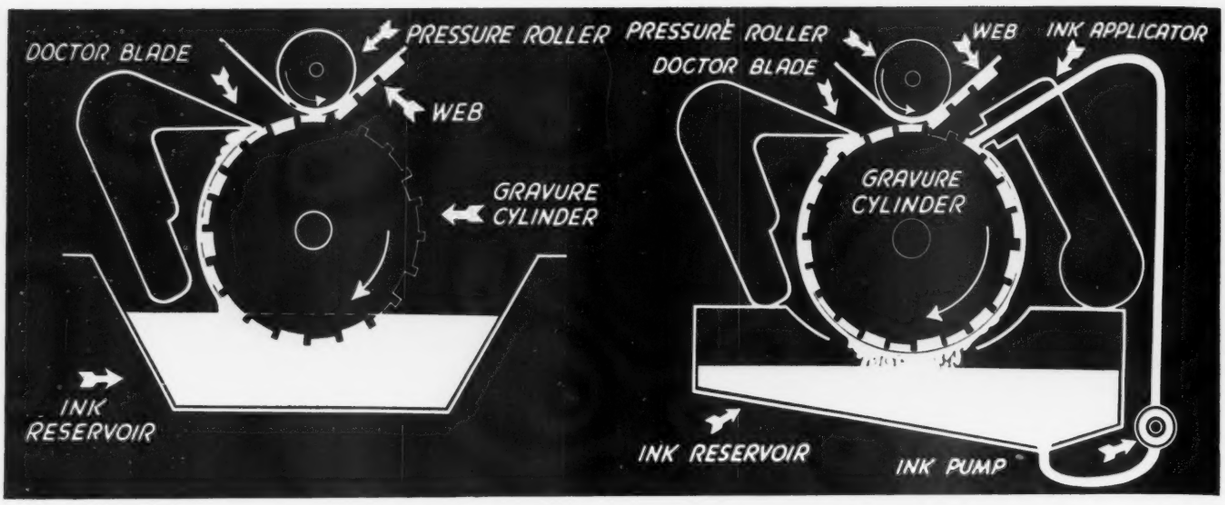
Productive Capacity Considered Consideration should be given to the rather high productive capacity of rotogravure equipment and the impact a few installations would have on the expanding general printing market. For instance, rotogravure recently has been introduced into the carton fabricating field. One installation consists of two presses and is currently producing a medium size carton at the rate of 2400 cartons per min. The dollar volume represented by this production would be in the neighborhood of $800 thousand per year on an 8 hr. production basis.

Largest Commercial Rotogravure House What is claimed to be the largest commercial rotogravure house in the United States (reportedly Reynolds Metal Co.) produces primarily foil labels. It is said this firm operates over 130 press units, in from three to seven color combinations. Indication is that this firm alone operates 30 presses.

Cellophane and Glassine In the Cellophane and glassine fields, there are at least 12 outstanding firms and possibly 8 secondary firms utilizing the rotogravure process. It is difficult to estimate the number of presses actually used. Two firms in this field produced over $30 million worth of printing last year. It is impossible to determine how much of this was actual rotogravure production because both firms do a considerable amount of aniline printing. Aside from the commercial firms engaged in the printing of Cellophane, Pliofilm and glassine, there are possibly 10 private plants, most of whom would have one or two presses each.

The Specialty Field There are a number of presses employed in what might be called the specialty field. These presses are hard to trace because many of them are home-made. A typical example is the rotogravure press used by the Ford Motor Car Co. for printing artificial leather upholstery material. Typical items produced in this field are paper drapes, wall, wrapping and fancy wrapping papers, vinyl drapes for window and shower curtains, decalcomanias used for wood grain effects, tax stamps, ceramic decorations, seals for thread spools, paper plates, drinking cups, frozen food containers, match boxes, slides and wrappers, bank checks, protective paper, tea bags and razor blade wraps.

Few Plants Make Cylinders Very few of the plants enumerated above manufacture their own printing cylinders or do their own etching. It is estimated that fewer than 10 commercial plants produce their own cylinders.



These two comparative diagrams show the essential differences between the open and closed types of rotogravure printing press ink fountains.

Diagram at left is the open type. As will be seen, there is no cover over the fountain. The printing cylinder is partially submerged in the ink which remains in the cylinder ink cells as the cylinder is rotated clockwise. Doctor blade removes ink from the non-printing areas of the cylinder just before impression of cylinder on paper occurs.

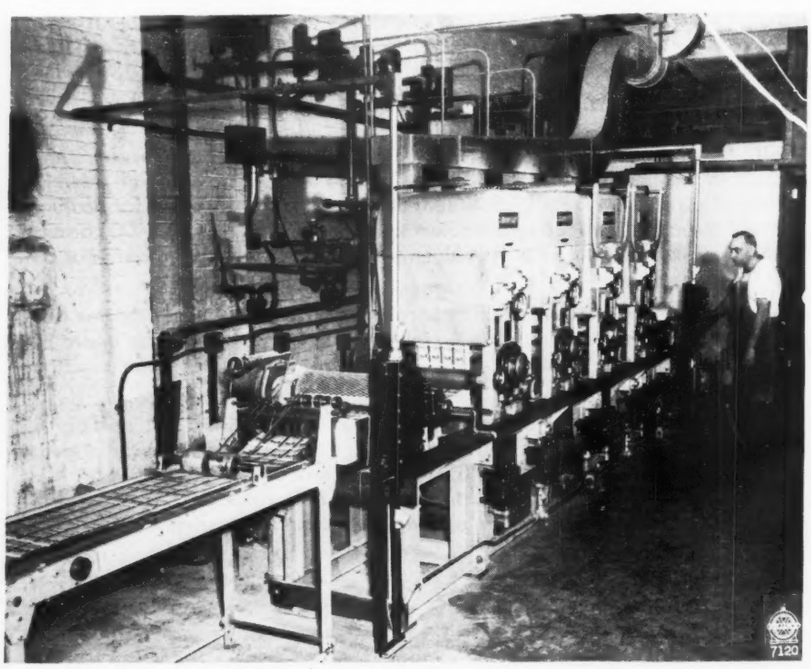
In the right-hand diagram is shown the closed type of ink fountain. In this type, the ink is pumped through a duct and the cylinder is sprayed constantly through action of the ink pump at the bottom of the fountain enclosure. No evaporation of the ink nor spreading of the ink solvents through the atmosphere takes place with this type of fountain. Doctor blade performs same function as the blade shown in left-hand diagram.

from the demands for the new packaging materials, but also because of new methods of production.

Development of Closed Fountain

During the early 1930s, an engineer, Adolph Weiss, was engaged in designing multiple operation equipment for the production of folding cartons and cut-to-size labels. He had perfected various types of fabricating mechanisms such as reciprocal punches, rotary perforators, slitters and embossers, but found the speed of equipment was limited by the inability of the printing units to provide a dry web. With the realization that the equipment maker would be limited until a more efficient method of drying were provided, his efforts were concentrated in this direction.

Experimentation with a variety of printing processes and drying methods eventually indicated that the rotogravure process was best suited to the existent requirements. However, while the process offered considerable improvement over other methods, due to the nature of gravure ink, it was still limited in its ability to provide a sufficiently quick drying ink. Instead of concentrating on the utilization of more heat in the dryers, with the danger that greater heat might remove certain valuable characteristics from the material, it was reasoned that if a more volatile ink could be employed, the required results of quick drying could be achieved.



Illustrated above is a small roll-fed rotogravure four-color press (operating side) with rotary sheet cutter and slow-moving belt delivery such as is used in the commercial field. A press of this size can be used for the printing of sheet delivery material and is a variation of the usual rotary cutter and pile delivery. The small size of the sheet allows for delivery of the cut sheet to a moving belt rather than by a series of tapes and grippers to a jogged pile delivery arrangement. This permits high speed operation. Manufacturer states one of these presses has been operated at 24,000 sheets per hr.

Greatest Contributions

Difficulties presented in the use of an excessively volatile ink are apparent. Weiss found that press units dried up, and ink became hardened in the rotogravure cylinder etch. This caused subsequent loss of color consistency and cleanliness of copy. In order to inhibit the evaporation of the fast inks indicated, a decision was made to fully enclose the printing cylinder assembly, ink fountain and distribution system. The success of this construction, which is known as the Weiss-Speedry Fully Enclosed Ink Fountain, has undoubtedly contributed more to the growth of gravure than any other single mechanical innovation.

One of the first applications of the Weiss fountain to gravure equipment was in the publication field. Publication gravure presses at this time operated at production speeds in the neighborhood of 700 lineal f.p.m. The Weiss-Speedry fountain, incorporated on existing installations, raised the speed to the present

level of operations common today in the publishing field, (1000 to 1200 f.p.m.) and almost immediately doubled the productive capacity of gravure presses.

The advantages realized by the publication houses in their ability to completely dry rotogravure ink almost instantaneously, and prior to each successive impression, was soon extended to the commercial field. Cellophane and foil, possessing surfaces extremely non-absorbent to ink, benefited by the use of the highly volatile solvents which were now usable.

While the primary value of the new fountain was in its ability to produce a thoroughly dried printing surface at high speeds, it was also found that this type of construction offered additional points of advantage. High speed rotary printing, employing liquid type inks, posed a splash problem. The new fountain enclosure measurably reduced this operational problem, and also provided an excellent safety feature. Solvent vapors were fully controlled, enabling complete expulsion to the outside atmosphere, thus eliminating danger of a toxic or combustible mixture being formed.

Development of Drying Means

In conjunction with the new fountain, it was found that dryers of a new type, utilizing a circulating and balanced air system, proved efficient without the necessity of high temperatures. Stocks which heretofore had been adversely affected by the use of high heat, could now be dried without the moisture content being removed.

Another problem had been the drying-in of ink on the printing cylinder surface prior to impression, which tended to destroy highlights and consistency of reproduction. The fountain, which inhibited the evaporation of the ink in the printing cylinder assembly, alleviated this problem by providing a higher quality of reproduction. It was also found that the enclosed structure permitted presses to be left idle for a considerable period of time without the necessity for washup. It is not now unusual for gravure press operators to leave ink in the equipment for several days.

Refinement of Commercial Press

The new demand created by the specialty packaging field, and the increased demand which had been developing in the publishing field, accelerated the mechanical perfection of the rotogravure press. In a comparatively short time, the results of research and development were incorporated in the newly available equipment. From lightly built, poorly engineered machinery possessing inadequate controls and presenting problems in operation, presses became precision instruments.

The 360 deg. planetary register system, which is also utilized by rotary letterpress, offset and aniline press builders, was adopted because of the demand by gravure press users for a continuous register mechanism. The positioning of individual printing cylinders could be changed during operation for the full 360 deg. of their rotation in order to register to the key plate. In conjunction with this development, electric push-button controls were developed, and subsequently, the electronic eye.

While the early presses provided adequate means of hand registering the printing units, higher speeds made it impossible for the press operator to watch printing register. The electric eye removed this responsibility from the operator. Once placed in operation, automatically it afforded maintenance of exceedingly close register tolerance during the length of a production run.

The rotogravure press, which had been primarily developed for a new and specialized printing market, began to be introduced to the general printing field where it was found to be suitable for certain types of long run work. Were it not for the requirements of the publication and the specialty packaging field, it is doubtful if there would be modern gravure presses available to the commercial printer today. The existence of the perfected press naturally led to experimentation with many types of printing. It was found that the process was suitable for any printing production that involved volume.

Specific Commercial Applications

In specific applications, rotogravure can be divided into three general classifications by the method of product delivery. Presses are available with roll rewind, sheeter and reciprocal or rotary punch delivery equipment. Roll rewind delivery would be suited to all materials which must be used in roll form due to methods of package wrapping or handling. This field would be represented by bags, wrappers and roll labels, utilizing glassine, waxed paper, cellophane, pliofilm and paper. In application, it would apply to such products as cigarettes, crackers, razor blades, candy, women's stockings, and so on.

The second classification of sheet delivery is generally typical of the label industry or the production of mailing pieces, catalogs, brochures, etc., where the product must be delivered in sheet form and thereafter cut, die-cut, trimmed or folded.

The third classification, which utilizes automatic die-cutting equipment in conjunction with the press proper, is a comparatively new field. Printing, die cutting, scoring and stripping of a folding carton in a single operation is permitted. Both press and modern punch equipment are variable and are suited to comparatively quick change. Various types of punches are available in keeping with production requirements and the nature of the carton blank to be produced. Generally speaking, fast reciprocal punches are well suited to small carton work of moderate quantity requirements. Larger stationary type punches are suited to larger cartons with moderate requirements of quantity. The rotary punch is suited to cartons of both size categories, but is only applicable where the quantity requirements run into several millions. In rotary punch production, it is also indicated that for best results, the carton should be of fairly good size, and of not too complicated design.

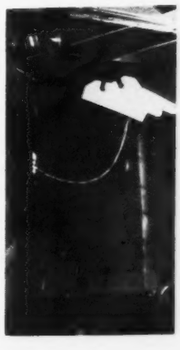
Limitation in the Gravure Field

There is a limitation in the utilization of any one individual printing process or type of equipment. This limitation is primarily represented in rotogravure by the cost and physical nature of the rotogravure printing cylinder. The real skill required in the gravure process is in cylinder production. Production quality is more dependent upon this factor than on press operation. The process is still expanding and there is a shortage of skilled plate-making technicians, and consequently, commercial plate sources. This factor presents the user with a problem.

Commercial cylinders today are comparatively expensive and preparations must be made from four to six weeks prior to a press run. It is obvious that this limitation causes gravure presses to be utilized only where volume production is a prerequisite. The nature of the equipment also indicates its use in this direction, as a press will turn out many thousands of yards of printed material in a comparatively short period of time. As an example, a moderate size press is capable of producing 300,000 wrappers (such as are common in the candy industry) per hour.

Fan Flattens Sheets on Press Delivery Table

PRINTERS working with automatic feed presses have had trouble with sheets not flattening out quickly enough on the delivery table. H. W. Spangler, Pressroom Foreman of the Fidelity Printing Co., Knoxville, Tenn.,



came up with a means for eliminating this difficulty. It consists of mounting an 8 in. fan with its small motor on the ceiling so that the fan is directly over and parallel with the delivery table. By mounting it in this way the fan, when in motion, will send its steady stream of air directly down on the printed sheets as they are delivered to the table. The air flattens out the sheets and stacks them up in quick order. In this shop, a Miehle press has been run with onion skin at the rate of 3000 imp. per hr. with the fan flattening the printed sheets.

The Arizona Printers, Inc.,

moved to new location in Phoenix, Ariz., while continuing production — Graphic description explains how the job was done — Plant workflow ideas for other commercial printers

by **ROBERT ROYDEN GREER***

**Printing Engineer, Los Angeles, Calif.*

THE ARIZONA PRINTERS, INC., in Phoenix, Ariz., is next to the oldest printing plant in that city. It was located for thirty years in the basement at 122 No. First Ave. The Arizona Title and Trust Co. (in the same building) had also grown rapidly, and decided without warning to lease the basement for its vaults and files. This meant that within 30 days from January 2, the Arizona Printers must vacate.

The 30-day period was drawing to a close when a floor was tentatively settled upon. It was the second story of a former automobile showroom and repair shop with a drive-up-and-down ramp at one side. The question arose whether the floor was strong enough to carry the live load of heavy printing equipment. The next problem was that no sound must travel through the structure that could be heard in the radio showroom downstairs when every machine ran at capacity. There must be no oil seepage over a period of time that would weaken the concrete floor structure. The next problem was that the present tenant could not move out until February 1, which added many problems with the orders from the Arizona Title and Trust Co. requiring removal by February 2. As a result, strategy and planning on each major item had to be worked out in advance.

Preliminary Floor Plan

A floor plan was developed. This was based upon the prescribed limitations of the maximum stress and load tolerances, and distributed the load to the best advantages within keeping of sound layout and architect's limitations. When the pencil drawing was completed it was submitted to the architects for approval for safe floor load carrying capacity. With a few pros and cons, it was accepted without change.

Pre-Move Problems

Now came the big problem. How to move everything out of that cellar up onto the second floor in the new location without interrupting production, and do it with over half of the floor filled with the other tenant's stored merchandise. We had to paint the entire ceiling and walls, install all electrical wiring, plumbing and heating units, build shelving, partitions, women's washroom, hang heating units, vent melting pots, install cable-car rigging and platform while the other tenant was using the floor and had it half filled with his goods. Then, too, there was a scarcity of help and materials.

The Cable Car

Construction of a cable car to travel up and down the ramp seemed to offer the simplest solution for transporting materials and equipment in and out of the new location. The cable car would be available upon instant demand during the entire ten-year lease. The cable car would have to make contact with an upper landing dock. It would be used only to move machinery. In its fixed position at the top of the ramp trucks would back up the ramp with paper or cases, and unload right on this car that would be transformed into a plain shipping dock of nearly truck height. Safety would be insured by an eye welded to each end of the platform and cable-car that were in contact, and a bolt run through and tightened. A heavy rod would be run through the wheels for further safety factor. Drawings were sketched and a steel man made the cable car. Each caster to be used was to have a rated load factor of 4000 lbs. There were to be eight casters but not of the swivel type.

Getting Equipment Out of Basement

Back to the old building, we had plenty of problems to face. The key was to get everything quickly and safely from the basement. How were we to get heavy machinery out of the basement? Because of the construction of windows and stairways in the old building, it was determined that the only way to get the equipment out was to cut a hole in the side walk, and build a cage with which to hoist it. We did. By so doing we moved equipment without dismantling, which saved machinists' bills; a long period out of production was prevented; prevention of lost or broken parts; prevention of general confusion by many different groups when dismantling on the old floor or assembling on the new floor.

ROBERT ROYDEN GREER
Printing Engineer

The sidewalk was broken to provide a clear operating space of 8 ft. by 10 ft. This size space would allow a cage of 6 ft. by 7 ft. to work up and down (loaded or unloaded) safely with proper clearance. This opening was to be boxed in so that when not in use the sides and top were enclosed with a wood "fence" to prevent accidents to pedestrians.

This operation was to be undertaken in the very heart of Phoenix with heavy traffic congestion. The city granted two Sundays in which to complete the equipment moving job.

Plans had now been set to do the best we could with warehousing congestion at the new location. The plan was to break up the plant into two units, and throw everything into unit No. 1 that could be dispensed with for a week, while unit No. 2 would carry the production load. Displaced men were formed into a night shift so that with split-plant operation, production would be nearly normal.

Starting the Work

The painters got started as soon as possible to do what they could in painting the new floor. They had to move, repeatedly, the other tenant's cases to accomplish it. The electricians started as soon as they could to do all the advance wiring, and put in the heavy meter panels. The plumber got started on his work. The moving man started to move much of the paper stock over to the new place. There was no way to build shelves in advance as they would come right into the area that the other tenant would not give up until February 1. The paper stock involved was immense, as it was a standing slogan of this plant that it car-

ried more paper than any paper house, excepting one.

Cleaning the Equipment

Meanwhile, time passed. On January 23, the first bolt was turned on the No. 3 Miehle press for dismantling. No gantry was available, and no headroom to use one. The dirt was so heavy that we got a

WILLIAM L. RISSE, Treasurer
The Arizona Printers, Inc.

group of boys to clean and paint the parts as they were stripped from machine. On the air chambers the ink had piled up over the years so that the ink plate had glazed a flat groove an inch wide over the accumulating pile of ink that had worked down upon them from washups.

Every piece of machinery was cleaned thoroughly with a wire brush and kerosene or with a mallet and chisel. Lye was used for soaking the worst areas. Then a second wire brushing with kerosene was used. Next a strong type wash was used. Then finally the machine was wiped down with turpentine just before painting.

One coat of Dupont's Horizon Gray Industrial Enamel (the identical color of all the new Miehle presses) was applied to every press, folder, cutter, stitcher, shelving, partition, composing room cabinet, stone, bank, magazine rack, rolling table and truck.

Moving Equipment

On Sunday, January 25, we put the whole moving plan into operation. We had heard that the owner of the trucking company and his men were all skeptical. By the time the first Intertype was moved into position on the new second floor location there was a change of attitude by the moving men. Things began to click. That first Sunday the eight men and owner of trucking company moved about 15 T. of machinery up into layout position on the second floor.

During the week a small truck was grinding lots of small stuff up the hand cranked elevator, and moving it over to the new floor. It was mostly paper stock and cases of type that would not be needed for the week.

Immediately after the Miehle No. 3 press had been moved to the new location, the Miehle erector started to assemble it, while electricians began to wire for both lights and power. Linoleum was laid for the Intertype department and cemented into place, then the machine was wired for power, heat, and light. Two racks were designed for the Intertype magazines. The racks accommodate 48 magazines. Each rack works on the principle of a channel with hard plastic rollers just the width of the channel. The channel is a little wider than the escapement bar of the magazine. It holds 12 full size magazines at the upper level and 12 splits on the lower level. The space between the lower level to the floor is sufficient to accommodate 50 pigs of metal for the Margach feeders.

Linotype Banks

Linotype banks with galley storage were cheaply and quickly made. We used 2 in. by 2 in. cross members about 25 in.

VICTOR MANUEL
Plant Superintendent
The Arizona Printers, Inc., Phoenix, Ariz.

long for the ends and center. Then we crossed these with No. 3 tongue-and-groove flooring. It was just the matter of building any length that was desired up to about 38 in. high. Then a piece of Masonite was cemented on top (after cutting to size) and weights put upon it over night. The next morning the weights were removed and the countersunk holes were drilled for some wood screws on the edges and ends. To make it a little nicer looking, a piece of plywood can be nailed at both ends of the unit to make it appear smooth.

On Saturday, January 31, the previous tenants cleared out their warehouse loads by late afternoon, leaving a mess for us to clear up. We were permitted by the city only the following day to get everything out of the old plant that was to come up through that sidewalk. However, we had the large cylinder in operating condition along with all machinery that had been moved the previous Sunday. We were also ready with wiring to hook up every machine as it would come in on Sunday. Space was provided for every piece as it would be coming up, and we had chalk marks upon which to spot each machine.

Sunday, February 1, was the big day. We had to remove the remainder of the equipment from the old location. We started at daylight and worked 'til dark. We hoisted out and moved nearly 40 T. of equipment. The same eight men moved nearly three times as much as on the previous Sunday.

Color Scheme

The dirty warehouse floor at the new location was transformed into a beautiful floor in spite of all the obstacles. The ceiling was painted white with a greenish undertone. This is a soothing color, is cool and has high reflectivity. This same color was carried down the side walls to within 5 ft. of the floor. A rich maroon-red stripe, 4 in. wide was followed at this level. Below that was a rich middletone blue-gray. All posts carried the same color scheme. Every overhead conduit, gas, water or sprinkler was painted aluminum.

As has been stated before, the machinery, shelves, tables, cabinets and partition were painted Horizon gray.

Floor Treatment

As has been mentioned previously, linoleum was laid on the floor in the Intertype department. A 65 lb. mica-surfaced roofing paper was placed on the floor in the rest of the plant wherever anyone would be required to work. The floor had been scrubbed with lye water, then mopped with many changes of clear water. After it had dried over night the mica paper was laid. Only the edges were cemented to prevent curling. After that was completed, whatever areas were not covered with mica roofing paper were painted with du Pont's Slate Gray deck paint. The floor protection prevents cement dust from being circulated into bearings, ink on presses, and doing damage wherever an abrasive can do damage. It prevents oil from working into the floor. It certainly does the employees no harm as they don't have that 2 o'clock fatigue that slows them down for the rest of the day from foot trouble, either.

Sound-Proofing the Cylinders

The skids for both cylinder presses were 12 in. wide and 3 in. thick, dressed on three sides (one side was left rough). To do a good job of sound-proofing we used vibration cork. The cork was a special heavy duty compressor cork in slabs 2 in. by 12 in. by 36 in. The cork would only do its job provided it had full distribution of load over the greatest amount of cubic inches of cork. That means that if the load could be distributed over the full 12 in. width by the length of the skid, it would give the maximum amount of sound insulation. But if that condition should ever change during the years of operation, then it would be worse than useless because a sag would develop. This sag would affect the level of the press and center line of the cork. This would be exactly what would happen if the skid should develop a split down the middle over a period of time, and no one would ever detect it, as the

frame would cover the split. To prevent that emergency, we used ¾ in. bolts by 12 in. long, with the widest washer that we could get to cover the 2¼ in. countersink.

Then we drilled and spaced three bolts on each end of the skid. The first one was drilled about 9 in. from the end; the next one 21 in. from the end; the next one 33 in. from the end. Countersinking to take care of the 12 in. skid with a 12 in. bolt and washers is simple mathematics. This same idea was applied at the other end of the skid with the same proportions. (By the way, we let the skid project 7 in. beyond the end of the frame at each end, so the skid was 14 in. longer than the length of the frame of the press.) Now the final two bolts were placed in the skid to fall 8 in. on either side of the center line of the cylinder column. When the skid fastening was completed then the other one was handled the same way. A heavy socket wrench was used to draw these bolts right home. The skids were left under this pressure overnight. The next day they were again turned tightly. When it was time to put the skids under the press, the bolts were given another healthy twist right down to the limit.

Now, one of the rules of the landlord was that he wanted as few holes as possible in his cement floor. That served our purpose, because in preventing the telegraphing of sound we cannot anchor presses to the floor even if we think we will cover everything with cork—or even go to the end of the skid and anchor with an end plate. It cannot be done. Even the end plate that has cork between it and the skid, if anchored to the floor, will collect sound waves and enough vibration from impact to convert it to sound and telegraph it into the cement. It will look as though it is fully isolated from any chance of contact with vibration or sound, but it will become an exchanger into the floor and create what you are trying to prevent. So, the only solution was to get the best waterproof cement and use this method. It is the type that is used for tile, fine linoleum for ship or outside use.

To use this method, the floor must be clean and absolutely dry. The floor was cleaned with lye water the day before and flushed and mopped with four rinsings of clean water. It was dried with clean rags and allowed to dry thoroughly overnight. The next step was to wipe the floor where the skids will rest, with alcohol.

The cork slabs are coated with this special cement and exposed to the air for a little while. Then the rough side of the skid (remember that three sides were dressed and one side was rough?) was also coated with this cement. To handle this cement it is taken from the can and placed on the area with a piece of shingle or thin wood, then a linoleum cement spreader (or comb) is used to spread it in fine stripes. This makes it possible to control the thickness of cement, work it easily, and give it a little wider area of oxidation before contacting it with the area with which it is to adhere.

After cork and skid cement surfaces look as though they are setting, bring them together and carefully place weight of skid upon the cork. Let set for a few hours. Do the same to other skid and cork. When fully set, we had the framework of the cylinder jacked up on blocks on end frames so that skid area was clear the whole length of the press. This made it possible to carefully do our work without accident or inaccuracy. Just before the skids were to be placed into position the floor was again wiped with alcohol.

The cork is the material that makes contact with the floor, so that the surface was coated with a heavy coating of cement. This coating was about 3/32 in. thick. It was allowed to oxidize until the slightest trace of dryness was felt on the cement. As both skids were in readiness it had to be a fairly exact operation. The floor had been marked with chalk lines where the skids were to be placed as previously explained, because there should be no movement of skid after contact with the floor. When ready to place skids, two strong men (one on each end) should handle and slide them close to the press with cemented cork side up. As they get the bead on the position of the chalk line they carefully turn the skid on end and then lift the skid clear of the floor while turning cement side down to bring it under the frame of the press. (Remember, the press has been jacked up on blocks to give a clearance of at least 2 in. higher than the thickness of cork and skid).

The skid with cement down is kept clear of the floor until the moment of contact. When the skid is held over the chalk line at the exact spot upon which it is to be lowered, it is gently brought into contact with the floor with both ends at the same time. There is a reason for this. It will prevent the breaking loose of the cork that is reasonably solid with the skid, and it will give a little better adhesion by this form of contact rather than by a wiping contact. After the other skid is handled the same way the press is gently lowered on each end a little at a time to slowly provide square contact with press and skids as nearly uniform as possible. This will prevent a sliding action of the cement and cork and throw the press out of its correct lineup.

A tinsmith can shape his tin and solder up all the seams so that the skids are perfectly covered with the tin overlapped under the frames. Before laying the tin be sure to place a good quality of roofing paper on the floor where the tin will cover. If this is not done there is the same condition of picking up sound waves and the tin will be the receiver and exchanger that will in turn transmit it to the floor. From there it is telegraphed throughout the building. Let the roofing paper project beyond the ends of the tin so that the ends cannot defeat the whole purpose of perfect sound insulation. Sometimes it is only one point of contact with the floor that can upset the apple cart. A good job will compel insulation of any conduits, gas pipes, etc., (that are in contact with press and floor) with pieces of old inner tubing. If the conduit extends through

Floor Plan Equipment Layout for Arizona Printers, Inc., 7th and Washington Sts., Phoenix, Ariz. Plant is located on second floor with general offices at the street intersection on ground floor. Building frontage on 7th Ave. (lower line of diagram) is 137 ft. 7 in. by 99 ft. 10½ in. deep.

Read Mr. Greer's account of transformation taking place in plant moved from basement dungeon to the new location under difficult circumstances. Paint, lighting and engineered equipment layout plus newly-installed employee conveniences combine to make this a pleasant place in which to work and to secure efficient production.

Production

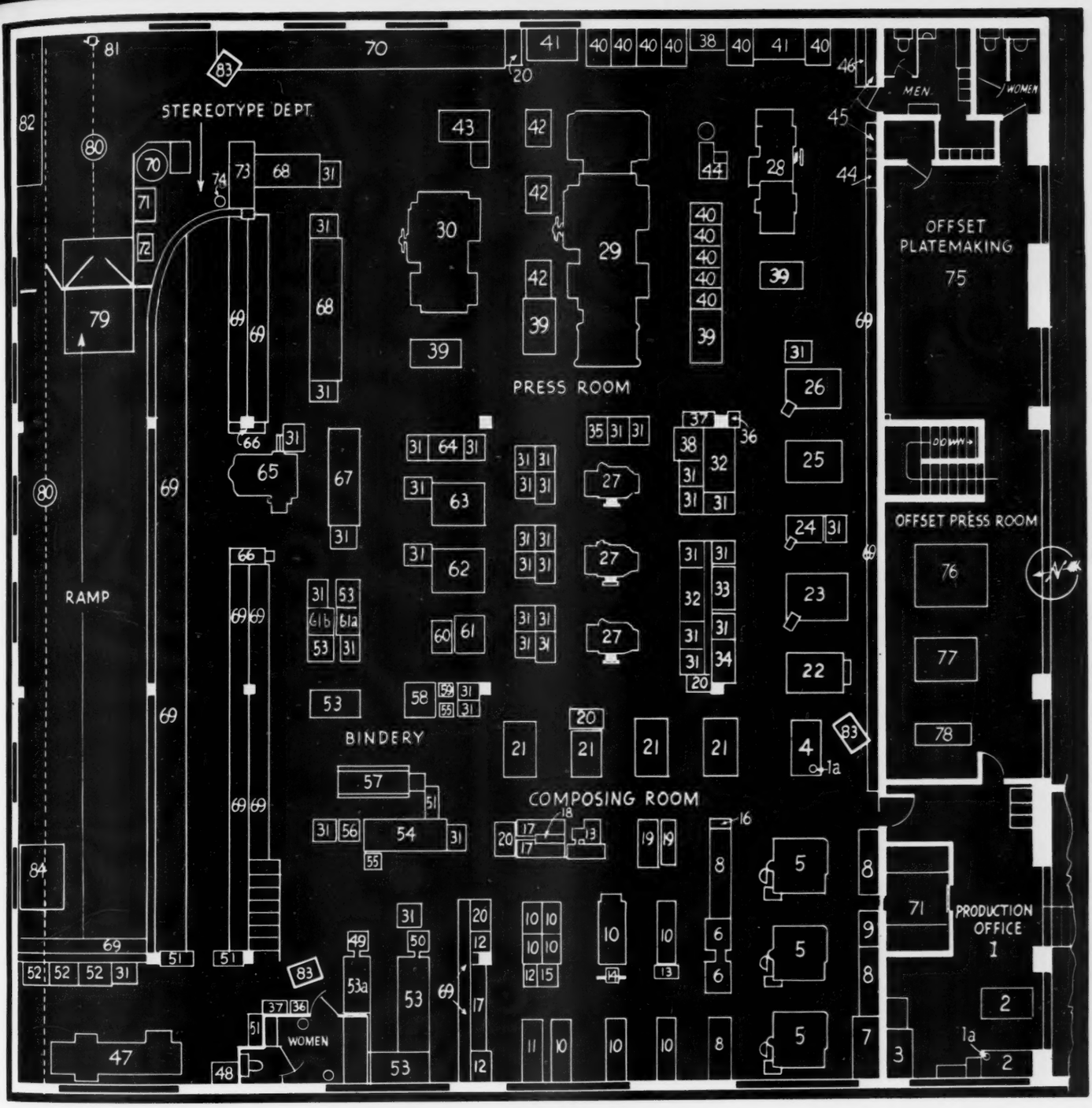
1—Production Office
1a—Intercommunicating phone to business office on first floor, (not shown) plant superintendent's desk (4), in Composing Room and station opposite cuttings receptacle (66) in Bindery
2—Manager's desk and table
3—Production control
4—Plant superintendent's desk in Composing Room

Composing Room

5—Model C Intertypes
6—Magazine racks
7—Machinist's bench
8—Banks with galley storage below
9—Galley proof press
10—Type cabinets with work tops
11—Elrod strip caster
12—Strip material cabinets
13—Mono-Tabular system
14—Rotary mitering machine
15—Saw-trimmer
16—Metal furniture cabinets
17—Flat-top 100-galley storage cabinets
18—Reglet cabinet
19—Vandercook and Poco proof presses
20—Chase racks in Composing and Press Rooms
21—Imposing tables
36—Frigidaire drinking fountain

Pressroom

22—10 in. by 15 in. Friel press
23—12 in. by 18 in. Chandler & Price press
24—8 in. by 12 in. Chandler & Price press
25—10 in. by 15 in. Kluge press
26—10 in. by 15 in. Chandler & Price press
27—Miehle Vertical presses (3)
28—Miehle Horizontal press
29—Miehle No. 3 press
30—Miehle No. 4 press
31—Stock and finished printing rolling trucks or tables with 24 in. by 32 in. tops mounted on heavy duty rubber-tired casters. All tables in the plant are 30 in. high
32—Organizing table (see accompanying article for explanation)
33—Table with drawers
34—30 in. by 47 in. check table
35—Lineup table
36—Frigidaire drinking fountains in Composing and Press Rooms and Bindery
37—Sinks in Press Room and Bindery
38—Markout booths
39—Tables on casters
40—Stock trucks
41—Tables
42—Paper on skids
43—Patchup table on casters
44—Roller storage cabinet and Tympan paper
45—Ink cabinets



46—Oils, spray liquid and kerosene
69—Paper stock storage

Bindery

31—Rolling Trucks
47—Cleveland B Folder with Feeder
48—Machine tools and parts storage
49—Boston Stitcher
50—Monitor Stitcher
51—Signature Trucks (8 trucks, 18 in. by 36 in., with three shelves, on rubber tired casters) work from bindery to cutter to shipping table
52—Heavy duty steel trucks
53—Tables
53*a*—Hand finishing table
54—Collating table
55—Syntron Joggers (2)
56—Morrison Stitcher
57—Stripping Machine
58—Padding Truck
59—Electrically heated glue pot
60—Coca-Cola Machine
61—Foot Perforator
61*a*—Punch
61*b*—Spiral Punch
62—Burton Slot Hole Perforator
63—Rosback Pin Hole Perforator
64—Paper Drill
65—Paper Cutter 44 in.
66—Cuttings receptacles
67—Cutting Table with two steel trucks for waste underneath
69—Paper Stock Storage

Receiving and Shipping

31—Rolling trucks
68—Inspection, wrapping and shipping tables
69—Stock shelves

Stereotype Department

70—Metal furnace
71—Casting box
72—Mat scorcher
73—Table
74—Dross drum

Offset Department

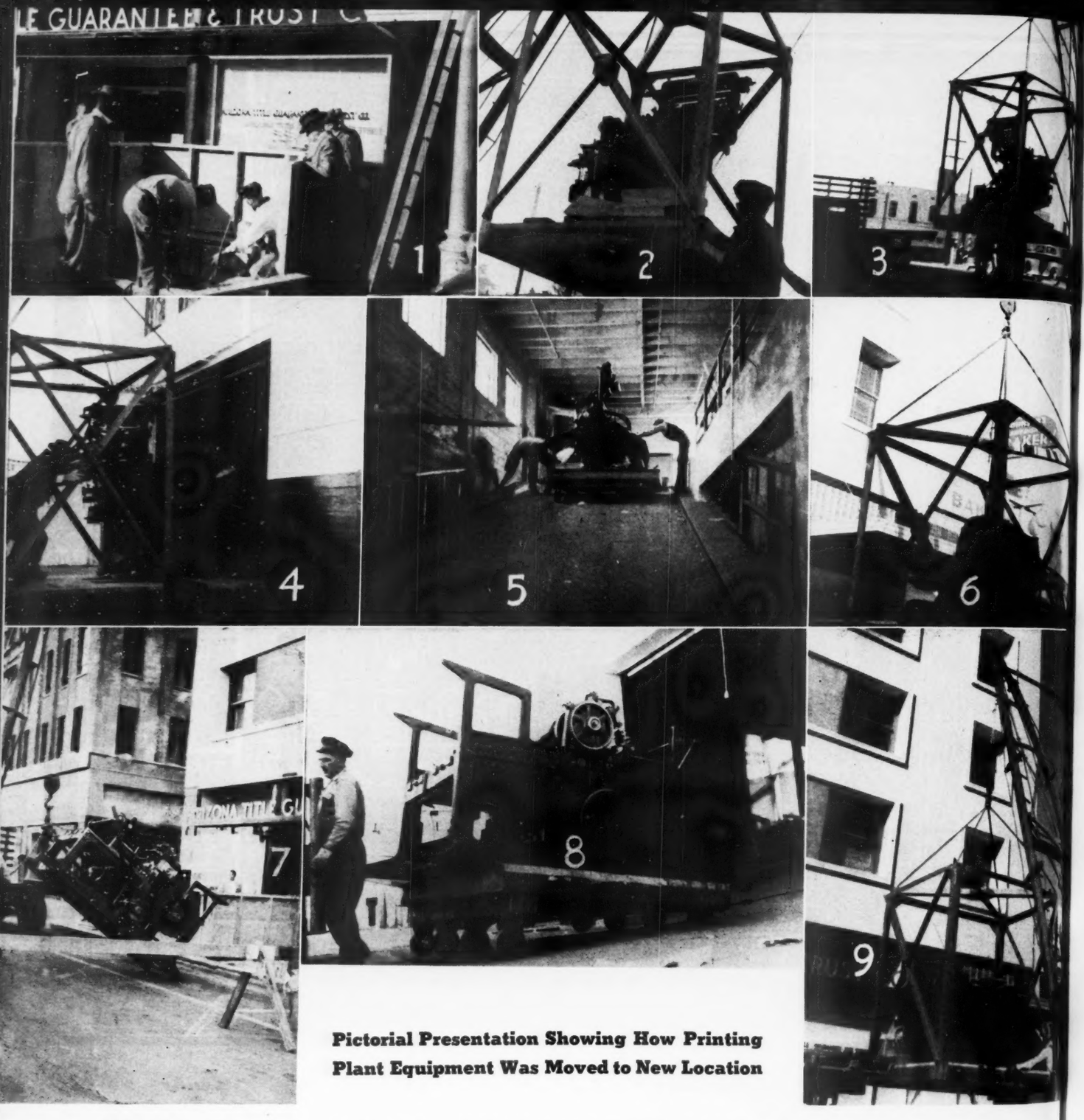
75—Platemaking and press departments
76—22 in. by 29 in. offset press
77—17 in. by 22 in. offset press
78—Multilith

General

79—Cable platform car. When in position shown, it is level with second floor. Used for transporting heavy machinery to and from ground.

When handling paper or cases, delivery truck backs up ramp to truck loading line of cable platform

80—Cable for moving car
81—Cable blocks
82—Mailing table
83—Rezinor 150,000 BTU Overhead Heaters (3), thermostatically controlled
84—Overhead Air Cooling Unit



Pictorial Presentation Showing How Printing Plant Equipment Was Moved to New Location

The Arizona Printers, Inc., Phoenix, Ariz., had occupied for 30 years a basement location in the heart of the city. Inevitably, moving day came for the plant. These illustrations show some of the major movements incidental to transporting the equipment to the new quarters on the second floor of a modern building. A specially constructed cage, hoist trucks, a cable car, platforms and rollers, plus pre-planning, enabled the movers under Mr. Greer's supervision, to get all of the equipment in the new location within stipulated time.

1.—To get the equipment out of the basement, an 8 ft. by 10 ft. hole was cut in the sidewalk and a fence was built around the opening. Equipment was trundled underneath the opening into a specially constructed cage and raised to the waiting truck by means of a hoist truck.

2.—Here an Intertype machine is being hoisted to the waiting transportation truck from the basement. Mr. Greer states the cage weighs 2000 lbs.; the machine weighs 3300 lbs., and the extras weigh 1000 lbs.—a total of 6300 lbs.

3.—At the new building, the cage supporting the Intertype is hoisted from the transporting truck. It will be swung and lowered on the area immediately in front of a special cable car which will be winched to the second floor.

4.—Here the Intertype is being skidded from the cage on pipe rollers to a stationary platform in front of the cable car. Three movers do the heaving.

5.—The grade of the ramp is 15%; a power winch down on the street operates the cable car to bring it to the upper (second story) landing dock (see floor plan layout).

6.—The paper cutter was moved similarly to the Intertype machine. In this view it is being lowered to pavement after having been swung from hole in sidewalk at old location.

7.—This Miehle press is being raised after emerging from hole in sidewalk to swing it to waiting transport truck.

8.—The press weighs 9000 lbs.; the cable car weighs 4000 lbs., a total of 13,000 lbs. going up the ramp.

9.—Two jobbing presses were hoisted in the cage at the same time. They are shown here emerging from the hole in the sidewalk.

the floor, have a hole drilled large enough to allow a little piece of inner tubing to be packed around the pipe where it enters the floor. If the conduit rests on the floor place a little piece of rubber under the area that touches the floor.

Benefits of Sound-Proofing

It is a good thing to reduce sound in a printing plant. Not only is it easier on the nervous system of everyone concerned, but it also preserves machinery. The very fact of vibration and sound developing from machinery is absorbed right back into the machinery, and induces extra deterioration beyond the normal expectancy. Metal fatigue and crystalization fractures are resultants of this condition. Vibration that is absorbed does not feed back into the press structure to intensify the periods of vibration and faster deterioration with higher maintenance costs. Long since cork has been proved of great value to the mechanical world, Printers (as usual) are always the last to take advantage of the great forward strides that science and research hands us on a silver platter. Cork is cheap. It is a simple matter to put it under your machinery. The higher speed machinery of today and tomorrow compels this protection. The benefits are many fold.

Pans With Beaded Edge

Measurements were made for every machine to make a pan for it with a beaded edge. Each was lined with roofing paper and cemented before placing under each machine. With the exception of the cylinder presses every machine rests upon the pan that was made for it. Therefore, the lining comes in contact with the floor. The machine then is placed upon cork that is 1 in. thick and cut to maximum area that it can rest upon. The more cubic inches of cork carrying the weight of the machine (1 in. thick) the less load per cubic inch that the work must bear. With wider distribution of the load the less compression of the cork and the greater the absorption of sound without a chance of retransmission of that sound.

The next angle is that V-drives were placed on all machines. A motor bracket had to be designed for the cutter, then the V-drive was installed. Both cylinder presses have V-drives installed. All job presses likewise. Motor brackets were designed and made also for the two punches and the Burton perforator. V-drives were then installed.

"Invisible" Wiring

All power wiring has been made "invisible". This means there are no conduits, gas or light lines coming down alongside the cylinder presses. Everything is invisible. That goes for the job presses, also. The Miehle Verticals are OK to come along from the ceiling to the opposite side from the flywheel for gas and 110 V. and 220 V. current.

The landlord did not want his floor perforated with holes so we compromised by reduction where it would not spoil a perfect installation. The Intertypes are provided with flexible goosenecks for the keyboard light, a hanging light with

(Continued on Page 90

Chicago Club and Joe Skach

THE Chicago Club of Printing House Craftsmen (750 members) at its annual meeting held in June elected a rather interesting Craftsman-executive personality as its 1948-1949 president. He is Joseph J. Skach, Assistant to the Vice President in Charge of Manufacturing of Esquire, Inc., Chicago.

Other officers elected are: First Vice President, Roy J. Kirby; Second Vice President, Frank Bartojay; Treasurer, George Skach; Financial Secretary, Michael Ivers; Recording Secretary, Frank Pugliese.

Resuming comment upon Joe Skach, he has been active in the Chicago Club for eight years. First, he served on the entertainment and exhibits committees, later on serving as chairman of the exhibits and educational committees.

JOSEPH J. SKACH, President Chicago Club of Printing House Craftsmen.

He was elected Recording Secretary in 1941, Treasurer in 1942, Second V. P. in 1943. His club activities were interrupted by the war. He served with a mobile Topographic Battalion in England, France and Germany. On his return he was again elected Second V. P. and last year served as First V. P.

He first entered the printing business in 1927 when he established a small job shop in Berwyn while attending High School. At different times he was employed by R. R. Donnelley, spent 8 years at Hall Printing Co., had been Production Manager of Rosenow Co. and D. F. Keller Co. When he returned from the service he took a position with Esquire Inc. as Assistant Purchasing Agent. During the past two years he reorganized the method of planning and purchasing of printed promotion material. Recently he was promoted to Assistant to the Vice-President, In Charge of Manufacturing. His present duties deal with coordinating the many operations involved in publishing magazines of National circulation and take him into the plants of the several printers who produce Esquire, Coronet and Apparel Arts magazines.

Stereotype Foreman Harry Knerr before mat roller in plant of Williamsport (Pa.) *Grit*. Safety bar extending knee high across and at the front of the machine enables the operator to either instantly stop or reverse the machine stroke. The device was installed by Plant Machinist Anthony Stanzione.

Safety Bar for Stereo Mat Roller

IN considering safety measures recently in the plant of the Grit Pub. Co., Williamsport, Pa., executives came up with the idea of applying a safety bar to the stereotype mat roller. To provide for any contingency whereby a roller operator might be injured by inadvertently placing his hands on a form about to be molded, a bar approximately knee high was installed at the front of the machine. This safety bar is connected by a safety switch to the motor stopping mechanism. Any pressure upon the bar will stop the machine. Additional pressure will cause the machine to reverse stroke. The bar is connected to a reversing switch which is parallel with the regular machine electric controls.

EQUIPMENT & SUPPLIES

Monomelt's File Folder Manuals

MONOMELT CO., Inc., has completed preparation of a series of seven file folder manuals for each piece of equipment manufactured by that company. These are titled as follows: (1) Monomelts for Electric Intertypes and Linotypes, (2) Monomelts for Gas Linotypes and Intertypes, (3) Monomelts for Electric Ludlows, (4) Monomelts for Gas Ludlows, (5) Monomelts for Electric Elrods, (6) Monomelts for Gas Elrods, and (7) Plane-O-Plate Rotary Shavers.

The seven manuals range from 36 to 48 pages and are 8½ in. by 10 in. size. There are many detailed illustrations. One purpose of the manuals is to give any equipment dealer all information for installation of Monomelt Systems, and to enable the dealer and/or shop man to do the job.

In the manuals are described in detail every part of Monomelt equipment. Also, clear explanations for determining what is wrong and how to find what part has failed and what to do about it are given.

A section of each manual is devoted to descriptions of supply parts. Exploded views show all parts with identification together with order number.

Returns Dead Stereo Plates to Furnace

ILLUSTRATIVE of how successful the combined efforts of a practical newspaper man and a manufacturer can be in improving an old operation, is the introduction of the Autolift, just announced by the Wood Newspaper Machinery Corp.

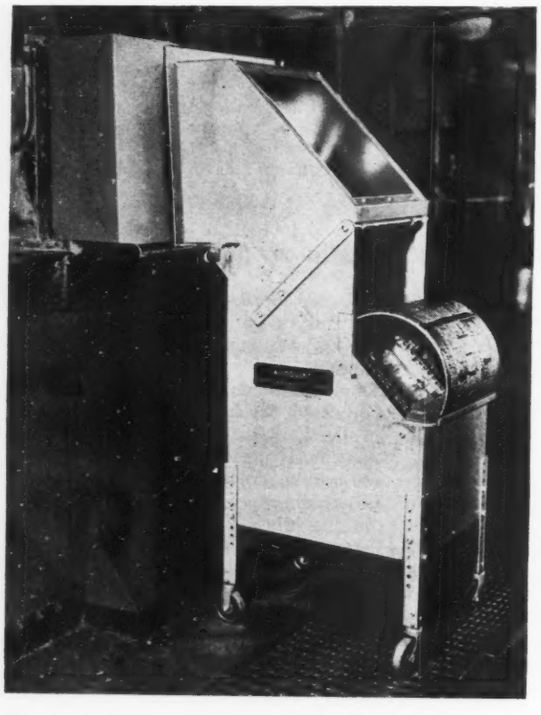
The Wood Company gives full credit for the idea behind this more efficient method of feeding dead newspaper stereotype plates to furnaces, to Fred Meyer, master mechanic of the Detroit *News*. It was his baby, born out of his day to day experience with the mechanical side of making a newspaper. He saw the need for an improved device which would eliminate the constant danger of molten lead splashing out on the operator when feeding used plates to the metal pot.

With Meyer's permission, Wood took his idea and set its staff of engineers to work on perfecting the operational details of this feeder. After months of development, the new machine, called the Autolift, is available to the newspaper industry.

Besides protecting the operator, who formerly dumped plates by hand, from risk of injury, the Autolift combines other advantages which makes this job cleaner, with less work involved. With the Autolift, the stereotyper can deposit the plate on the machine at a convenient height.

The Autolift receives used plates one at a time, and delivers them one at a time into the pot. This steady feeding of plates eliminates the severe demand on the heating equipment of the furnace. In this way the Autolift may show improvement in the amount of electricity used.

For additional details send for brochure to the Wood Newspaper Machinery Corp., or *Printing Equipment Engineer* will be glad to pass along your request.



View of Wood Newspaper Machinery Corp.'s Autolift by means of which dead newspaper stereotype plates may be returned automatically to the metal pot. Operator lifts dead plates from truck and deposits them one at a time on the low platform. Conveyor takes plates upwardly and dumps them into the molten metal.

The Printer's Bevel

THE Printer's bevel is designed especially for use in the printing industry. It is intended to eliminate guesswork from angular composition and makeup. The device was recently announced by Ed Zimmer of Zimmer Printers Supply Co. The bevel is a tri-

angular instrument made of brass. The legs are set to conform with the angles on the layout. These angles are then transferred directly to the saw bed. The cutting of blocks for any kind of angular composition is as quick and accurate as making straight cuts with the saw. The Bevel may also be used as a square for checking position of plates and type and for tacking plates on mounting base at the correct angle. A folder will be sent upon request. Address Zimmer Printers Supply Co., or *Printing Equipment Engineer,*

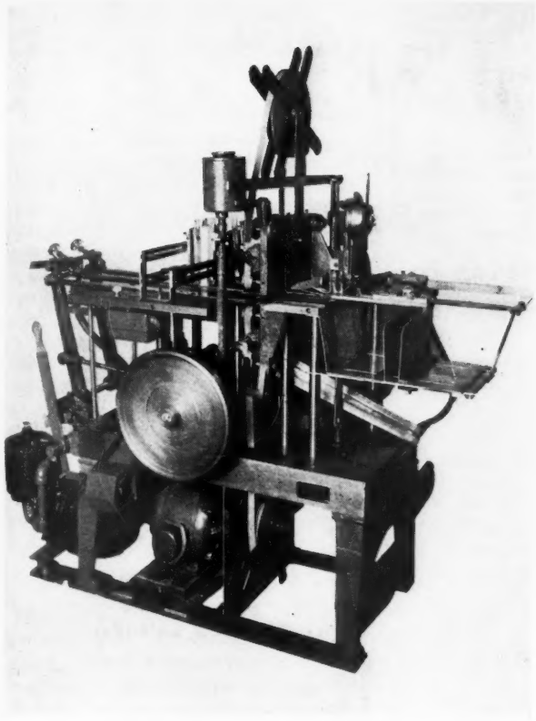
Universal Tachometer Indicator

FOR use with any Metron tachometer head is the single range indicator type 43. The meter itself is of rugged design and shock mounted in sponge rubber to permit use where severe shock or vibration is present. The aluminum housing is designed to provide flush

switchboard mounting from the front or bracket mounting from the bottom.

Electrical head connections are made to terminals on the rear surface. Also on the rear is a calibration adjustment. This adjustment is ordinarily sealed by the factory, but if desired the user may use this control in the field to calibrate the indicator for specialized applications.

Large numerals, a 4 in. scale length, and heavy main calibrations are used to provide readability at a distance. Fine graduations insure accurate close up readings. Directly calibrated in any units, this indicator, it is claimed, can measure any quantity which is actuated by speeds from 1 r.p.m. up to 100,000 r.p.m.



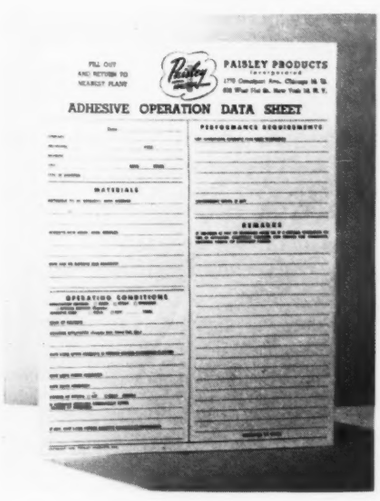
Graeber Patch and Eyeletting Machine handles tags and envelopes 8 in. by 10 in. max. and 2¾ in. by 1⅜ in. min.

Graeber Patch and Eyeletting Machine

AN automatic patch and eyeletting machine for tags and envelopes has been introduced by the Graeber Stringing and Wiring Machine Co. It will attach patch only or patch and eyelet, in any location on all envelopes and tags excepting No. 1 and No. 2 tags. On the latter, because of their small size, only a patch or an eyelet can be attached. Pre-punching is not necessary for envelopes and tags of any shape, except round ones. For these, a special attachment is required for pre-punching. Machine handles tags and envelopes 8 in. by 10 in. max., and 2¾ in. by 1⅜ in. min.

Reinforcement patch can be applied to one or both sides and patch stock may be ⅞ in. or 15/16 in. wide. Gummed paper is not necessary as patch unit is equipped with a glueing device. Standard reinforcement patch set is 9/16 in. in diam. by 3/16 in. hole; other sizes available. Punches and dies may be removed for sharpening. The eyeletting unit can be added to the machine at any time. Eyelets can be inserted with or without reinforcement patch.

Machine is equipped with automatic stop. Should suction slide miss tag coming out of the magazine, if tag (or envelope) jams anywhere along the line or if magazine becomes empty, the unit automatically stops. Machine patches 100 tags or envelopes per min. Its weight is 1400 lbs. and takes up floor space 75 in. long 43 in. wide. It is 70 in. high.



Paisley Data Sheet

QUESTIONNAIRE sheet used by Paisley sales representatives is filled out and returned by adhesive users who desire improvements in their labeling, sealing and fabricating adhesive operations. The Data Sheet enables step by step recording by the user of the necessary information Paisley's adhesive chemists require for study and analysis of an operation.

When it is considered that over 500 chemicals and raw materials are used in compounding modern industrial adhesives, correct problem data can narrow the selection of an adhesive to a fine point and result in higher standard of performance, and saving of time.

An Adhesive Operation Data Sheet can be obtained without obligation from Paisley Products, Inc., 1770 Canalport Ave., Chicago 16, Ill., or 630 West 51st Street, New York 19, N. Y.

Two Craig Appointments

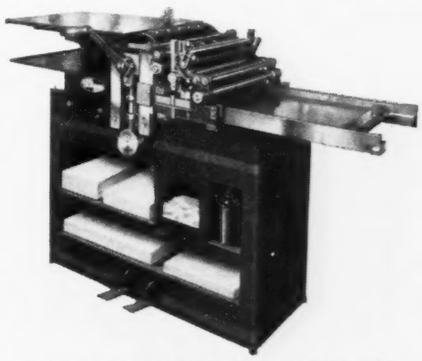
ERNEST PAYNE, president of the Payne & Craig Corp., announces appointment of Lino-Inter Service Co., 369 East Grand Blvd., Detroit, Mich., to handle sales in Michigan and part of Ohio. Burt Burnett will handle this account for his firm. Announcement was also made that Cornell & Everett, 714 Baltimore Ave., Kansas City, Mo., will service and sell Craig equipment in Kansas City.

Completes Series K Presses

COMPLETING its new line of Series K proof presses, The Challenge Machinery Co., has announced the Style KA with automatic inker.

This machine is hand-operated. A turn of the crank causes the cylinder to revolve while the reciprocating bed rides through on anti-friction rollers. Sheets are fed to cylinder grippers and a micrometer side guide, and the form is automatically inked. A foot trip prevents offset on the cylinder packing during the return stroke of the press. The inker is equipped with two in. form rollers, 2¾ in. steel vibrator, 2 in. composition and 1 in. rider rollers.

The Style KA is made in two sizes—No. 1528 (form size, 14½ in. by 23½ in.)



and No. 2028 (form size, 19½ in. by 23½ in). These models have a sliding feed board that moves back to give access to the cylinder packing. Also has delivery board, zinc galley plate, and welded steel stand with shelves and compartments for paper, ink cans, and wipers.

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9 Point Linotype Times Roman with Italic

HOW IS ONE TO ASSESS AND E
How is one to assess and evaluate 12

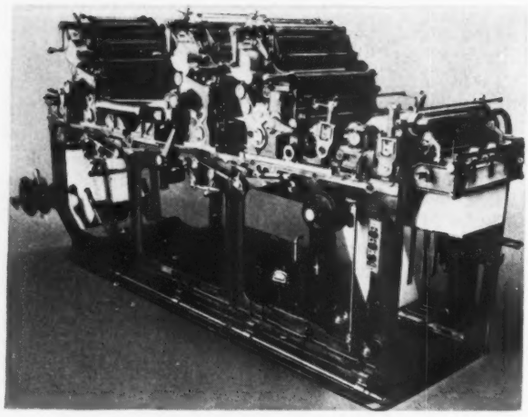
HOW IS ONE TO ASSESS AND E
How is one to assess and evaluate VB

9 Point Linotype Times Roman with Bold

HOW IS ONE TO ASSESS AND E
How is one to assess and evaluate 12

HOW IS ONE TO ASSESS AND E
How is one to assess and evaluate 12

Specimen showings of Mergenthaler Linotype Co.'s Times Roman, Italic and Bold Face announced recently.



Imperial Lithograph Press Corp. announces Litho-King multi-color roll or web-fed offset press. Press also imprints, numbers and perforates.

Web Offset Press

A MULTI-COLOR roll or web-fed offset press printing two colors on one side or one color on both sides in a single operation at speeds claimed to range up to 30,000 sheets per hour, is announced by Imperial Lithograph Press Corporation. The press is being marketed under the trade name of the Litho-King according to George G. Carnegie jr., Vice President and Sales Manager. Sheet cut-off is 8½ in. Press handles maximum width paper roll of 14 in. Besides the two color and double-side printing features, the press imprints, numbers and perforates. Other features according to Mr. Carnegie, include a positive means of controlling the web at the delivery, assuring continuous high speed operation and accurate sheet cut-off; riding of the bearers on all three cylinders—plate, blanket and impression; improvements in ink and water distribution systems and plate and blanket change operations. The imprinting feature provides a third color.

The Litho-King can be used to produce letterheads, forms, direct mail material, handbills and many other jobs.

The new press measures 4 ft. wide, 12 ft. long and 5 ft. high.

The Kastenkooler

THE Mechanical Division of the United American Metals Corpn., is introducing the Kastenkooler. This equipment is a self-contained unit operated in conjunction with a Big Chief Metal Remelter. It features uniform heating and uniform cooling, with instant change-over from heating to cooling by an arrangement of jets in the form of screened tips, resulting in a non-shrink cast. By this arrangement the life of the backing-pans is lengthened due to balanced expansion and contraction in the course of heating and cooling.

Within a few minutes after lighting the burners, the foil on the shells has melted. The burners are then turned off and the backing-metal is poured over the shells through an electrically heated, temperature-controlled casting-trough. As the cast is completed, the pans are cooled by compressed air. The pans are calibrated for depth of cast and with a series of three pans it is possible to cast as fast as the shells can be prepared.

Both the Kastenkooler and the Big Chief Remelter, states sponsor, are insulated and enclosed so that practically no heat or fume can pass beyond their enclosure.

Presses Again Offered

PARSONS & Whittemore, Inc., announce that M.A.N. Maschinenfabrik Augsburg-Nuernberg, is again offering web-perfecting rotary offset presses to the magazine publisher and the commercial printer. These presses print from 1 to 4 colors on one side of the web, and 1 to 4 colors on the other, at an announced speed of 15,000 cyl. r.p.h. and up. The final product is folded or delivered flat. Elsewhere in this issue is pictured a 6 color offset press which prints 1 or 2 colors on one side of the web and 1 to 4 colors on the other. Press is supplied with a sheet delivery and a magazine folder delivery (folded and stitched). Further information may be secured by addressing Parsons & Whittemore, Inc., 10 E. 40th St., New York 16, N. Y.

Printing Equipment *Engineer*, will be glad to help you find where that equipment is made.

Ring Slide Binders

REMINGTON RAND has developed a line of small capacity binders known as Ring-Slide, available in a full-range of sizes and durable materials. The design embodies a slide mechanism with smooth-rounded one-piece rings, 1 in. spaced, that take regular loose leaf sheets punched with standard "closed" holes.

The sizes listed by the manufacturer range from 3/8 in. to 7/8 in. capacity, in binding lengths from 3 in. to 14 in., answering both standard and non-standard page size requirements including pocket-size memo books and over-size binders. Cover materials from paper to genuine leather.

Ring-Slide Binders are adaptable to a variety of loose leaf uses. A folder *Try This For Size* (LL 149A) describing the binder line is available on request from the Systems Division, Remington Rand Inc., or *Printing Equipment Engineer* will forward your request.

Mid-Year Calendar

HARRIS-SEYBOLD'S mid-year calendar for 1948-49, the ninth in a series of lithographed calendars featuring subjects by Artist T. M. Cleland, is being distributed, according to H. A. Porter, vice president in charge of sales for the equipment manufacturing firm. For this year's calendar, Mr. Cleland has made another water-color drawing for reproduction by offset in series of imaginary scenes in eighteenth century France which have aroused popular interest for the past three years. With this picture a series of four, which he undertook to do in this particular manner, is completed. Differing somewhat from the preceding pictures, this one—*Romance*—is more fantastically conceived in the aristocratic setting of a palace and park as it might have existed in the extravagant reign of Louis XVth. Reproduction is in four-color offset by Rogers-Kellogg-Stillson. Copies of the calendar may be obtained from Harris-Seybold Co., Cleveland 5, O., by written request.

Mutual Respect of Human Rights

MUTUAL respect of individual human rights provides a common ground for worker and employer on the road to the nation's economic recovery, Carroll E. French, Director of Industrial Relations for the National Association of Manufacturers, told the Tamiment Industrial Relations Institute in Bushkill, Pa., on June 21.

Three principles, based on sincerity, common sense and an open mind geared to the golden rule, were suggested by Mr. French for speedier progress on the two-way street leading to improved labor-management relations:

"Think of, and deal with, people as individuals, not in the mass.

"Do not impugn or question the sincerity of the other fellow's motives.

"Renew our faith in the democratic process as a solution to our problems."

One of the most hopeful promises for a better era lies in the increasing recognition of modern personnel methods, Mr. French said.

"Industrial relations," he pointed out, "are, in the last analysis, personal relations. They consist of, and are influenced by, the relationship between the worker and his immediate superior, by the character of dealings between the foreman and the shop steward, by the day-to-day relations between a superintendent and his employees, and by the thoughts, attitudes and extent of cooperation existing between the workers of a company and the heads of the business."

ANPA Mechanical Conference

(Conference pictures to appear in September issue)

Industrial Relations, Research, New Developments and Mutual Discussion Dominate Meeting — Registration about 1050 — Fine Equipment Exhibits

By DR. R. R. VOORHEES

THE ANPA Mechanical Conference held at the William Penn Hotel, Pittsburgh, July 19, 20 and 21 registered approximately 1050 production and mechanical executives and representatives of manufacturer and supplier companies. The conference was outstanding in every respect, particularly from the standpoint of the first day's sessions during which industrial relations were discussed for the first time in the history of the Mechanical Conference. Great satisfaction was expressed by many production and mechanical executives over the industrial relations sessions. The hope was also expressed that this important part in newspaper production would be made a permanent part of future ANPA meetings.

Exhibits Interest High

About 45 manufacturer and supplier companies maintained exhibits at the Conference. It is thought that with the possible exception of the 1940 Chicago meeting, this was the largest equipment and supplies exhibit to have been held by the ANPA. The list of exhibitors was published in the July issue of *Printing Equipment Engineer*.

That equipment and supplies exhibits go hand-in-hand with the conference, is attested by the keen interest in the visits of executives, in some cases repeatedly, to specific booths. Among the first-time showings of equipment were the following: Linotype Parts Co., Inc., automatic quadder for attachment to outstanding Intertype and Linotype machines; composing room saw, Pioneer Mfg. Co.; page form and transfer truck, Printing Equipment Corp.; one of the Series K Proof presses, Challenge Machinery Co.; Smatco curved router, John Griffiths Co., Inc.; pneumatic metal pump and Autolift, by Wood Newspaper Machinery Corp.; infrared burning-in oven; platemaking equipment, W. A. Brown Mfg. Co.

MORNING SESSION, MONDAY JULY 19

THE opening session of the conference scheduled for 10 o'clock, Monday, July 19 got under way 15 min. late because of the reluctance of the delegates to leave the machinery and equipment exhibits. It has been so long since new and modern printing equipment has been on exhibit in such profusion that delegates were charmed by its sight. But when the first session got under way it went along with the clocklike precision with which it had been so ably planned.

J. L. Stackhouse, Chairman of the Mechanical Committee and with the Easton (Pa.) *Express*, was in the chair when the meeting was called to order. In a few brief remarks, Mr. Stackhouse reviewed the work of those who were responsible for planning the conference and paid well deserved tribute to them for their untiring work.

William Block, Co-Publisher of the Pittsburgh *Post-Gazette*, was then introduced. He welcomed the delegates and the conference to the city on behalf of the publishers of Pittsburgh. In his welcome, Mr. Block stressed two important departures in this year's conference, namely the inclusion of research and personnel as program features.

"The lack of interest in research in the past has been one of the weaknesses of newspaper publishing," said Mr. Block. "It is noteworthy that it will receive considerable attention during this conference.

Not Just Brick and Mortar

"A newspaper is not just brick and mortar," continued Publisher Block, "a newspaper consists of people. In this year's program a considerable amount of time is being devoted to personnel problems as well as the usual matters with which these conferences concern themselves."

David W. Howe, President of the ANPA was then introduced by Chairman Stackhouse. President Howe briefly reviewed the program for the conference, calling attention to the several features that were scheduled. In closing he voiced what proved to be the sentiment of the entire conference, "Share, give liberally and you will also receive."

Labor Policy Relaxed

The session was then turned over to E. H. Evers, Chairman of the Program Committee and production manager of the St. Louis *Globe-Democrat*. Mr. Evers in his usual eloquent manner stressed the human phases of newspaper publishing as perhaps the leading topic that would receive consideration at this conference. He also mentioned costs, production and man hours as subjects that were on the agenda and which would be discussed as the meeting progressed.

Mr. Evers announced that the "no labor discussion rule" that had been in force for previous conferences had been relaxed so that labor could properly be discussed during this meeting.

"In relaxing the "no labor discussion rule, however," Mr. Evers continued, "we want to emphasize that this is not an invitation for any hoe-down on labor, contracts and related subjects, neither do we wish this to be taken as indicating that we are taking over the work of the Chicago ANPA Standing Committee."

He touched briefly on a possible change in the economic situation as a possibility in the future and urged those present to improve personnel relationships in their individual plants so that if there should be a change in the economic situation, the changed conditions could be met with benefit to all from the apprentice boy on and still get the paper out on time.

"We must get high production but we must get it through improved methods," urged Mr. Evers. "The theory that low production and high wages are a good combination must be defeated at all costs. We must never lose sight of the fact that it is impossible to take out more than we put in. I trust all of you will dedicate yourselves to improving the human relations in your individual plants when you return home from this conference."

Lyle Baker, President of the Southern Newspaper Publishers Association, and Charles McCahill, of the Cleveland *News*, were introduced. Rudolph E. Lent of the *Jersey Journal*, Jersey City, N. J. and C. H. Ruth of the Washington (D.C.) *Star*, were introduced as co-chairmen at this point by J. L. Stackhouse.

Mr. Lent spoke briefly urging the delegates to enter into the discussions, propose questions and in that way enable all to get maximum benefit from the sessions of the conference.

Teaches Economics to Employees

Ray S. Tannehill, Secretary-Treasurer of the Bell Telephone Co. of Pennsylvania, was the first speaker of the opening session, speaking on *A Need For Economic Understanding*.

"This Is Our Problem"

The session closed with the showing of the sound strip film entitled: *This Is Our Problem*, presented by C. C. Carr, Public Relations Director of the Aluminum Co. of America. This made a fitting follow-up to the talk by Mr. Tannehill, because it was concerned with the economic system of the United States, an analysis of it and the people's attitude toward it

AFTERNOON SESSION, MONDAY JULY 19

THE afternoon session on Monday opened with J. L. Stackhouse in the chair. As a first order of business he introduced Fred W. Schaub of the Decatur (Ill.) *Herald and Review* and R. R. Cranmer of the Williamsport (Pa.) *Grit* who, together with E. H. Evers who was introduced at the morning session were the chairmen for the second session of the conference.

Dr. Ralph L. Lee, Public Relations Department, General Motors Corp., was the first speaker of the afternoon session speaking on *Humanics in Printing*. He was introduced by R. R. Cranmer who occupied the chair for the first portion of the session.

Human Relations Wizard Discourses

Dr. Lee proved to be a most interesting speaker as he took up the human side of business. At the start he mentioned the oft repeated statement that the technological advancements during the past years have far overshadowed the advancements that have been made in understanding human relations. However, he definitely indicated that he didn't believe this but rather believed that we know more about humans than about all the other elements of business put together.

"I decided years ago," said Dr. Lee, "to find out about people by asking those who have had close dealings with people what they have found out. And I discovered a truism that I want to give to you. Every human being is different from every other human being and the only one of his kind in the world."

He then indicated that the only way to get along with people was to find out about each particular person and discover the way to handle him and work with him.

Types Kinds of Employees

Dr. Lee then proceeded to name some of the different kinds of people, a listing that brought forth many a laugh from the delegates as they evidently tied up Dr. Lee's listing with employees in their own plants. The speaker named such specimens as the bully who tries to bull his way into a job for which he is not prepared, the smoothy who tries to soft soap his way into a job he isn't fitted to hold, the pouter who is always voicing some gripe, the tattle tale who devotes his time to spreading anything and everything that he hears, the ants in the pantser who is here and there and everywhere at one and the same time, the lead in the pantser who has such a low center of gravity that he seldom moves, the talker who like the brook goes on forever, the spinx, the prevaricator who follows the only trade he knows, the penny wisers and pound foolishers who want to redesign a piece of equipment before they even know what it is intended to do, the clown who is always doing something foolish just to keep in the limelight, and lastly, the leader who by his very presence can turn a chaotic situation into a harmonious one and change those in the group into go-getters.

Will Never Get Different Group

"Don't kid yourselves by thinking that some day you'll get a better group than you now have," chided Dr. Lee as he continued. "You won't do it. You'll never get a better or different group than you now have. Your group will always be made up of the same mixture of people I have just named and in the same proportions as your group today. You'll just have to learn how to handle them."

People Cannot Change

He then proceeded to stress the fact that people are what they are because they cannot change as much as they, themselves, would like to change and as much as the other fellow would like them to change. He stressed the fact that no person is the same all the time and that to properly handle a person that person must be studied and handled according to the way he is built. He also made a point of the value of knowing what a man has been through as a great help in properly handling him.

Everybody is Different

"Everybody is different and he is happy that he is different", said Dr. Lee in closing his remarks. "I believe when we finally reach a settlement of the differences that are now troubling business we will find that what every man wants most of all is that his differences from other men he recognized and appreciated.

The second talk scheduled for the session was called off because R. I. Miller, Manager, Standardization Division, Curtis Publishing Co., who was to be the speaker on the subject *The Employee's Stake in Scientific Management*, was unable to be present. He met with an accident about a week previous and had not recovered sufficiently to be present.

Personal Insight Into Practical Program

Robert H. Spahn, Oklahoma Publishing Co., Oklahoma City, Okla. was the next speaker, his subject being *Training and Personnel Problems in a Newspaper Plant*. At the very start Mr. Spahn expressed surprise over what he termed the tiptoe method with which labor problems have been handled by some organications. He definitely indicated that he is strongly in favor of discussing labor problems because it is only through discussion that conditions can be improved.

Chides Executives

He next took up the question of personnel problems and chided the mechanical executives and newspapers in general for their lack of interest in such problems. The value of team work in the mechanical departments of the newspaper was brought out as the only way to improve operating conditions. And this, claimed Mr. Spahn, can only be done through personnel training.

"It isn't only the tools with which an employee works that governs his attitude toward his job, and thus his production, but also his attitude toward his job and a feeling that he is part of a team that is doing a job," said Mr. Spahn as the crux of the labor management problem which can be solved only by personnel methods.

The speaker then launched into a discussion of the apprentice problem. He pointed out that the apprentice in the majority of newspaper plants is unknown to the higher-ups in management. He urged recognition of the apprentice as a boy whose education and training are not completed but who, when his education and training are completed might become prominent in the newspaper organization.

Picking Apprentice Applicants

The value of scientific tests for picking apprentice applicants was brought up and completely endorsed. In the matter of scientific tests he plainly indicated that he did not believe the majority of foremen in newspaper plants were fitted to properly give such tests. He urged that personnel departments be established to give such tests, claiming that in the long run the expense for the conduct of such personnel departments would be more than justified by the results obtained.

Along the line of scientific tests for jobs, he stressed that different tests should be used for different jobs.

In closing his remarks Mr. Spahn told of the work the personnel department of his publishing company was doing.

"I would suggest to you," said Mr. Spahn in closing "that you think of your apprentice training program as a training program and not as a working program."

Foreman Key To All Human Relations

The speaker also took up the question of foremen, stressing the point that the foreman is the key to all human relations in the newspaper plant. He is the point of contact between management and the employees in the shop. The wisdom of taking foremen into the confidence of management was indicated as a sure way to improve relations in the plant. Foremen training programs were also mentioned as something that could work wonders in a plant but which, sad to relate are so seldom found in newspaper plants. A suggestion was made that the foreman in a shop name others to serve under him as assistants, such as the ad foreman, the makeup man, the head copy cutter and so on. By naming them as assistants to serve under the foremen they would not only be made to feel that they are a vital part of the team producing the newspaper but at the same time the foreman would build up a better functioning team.

Following the talk by Mr. Spahn several questions were asked from the floor by delegates who wanted more details on the apprentice club the Oklahoma Publishing Co. has organized in Oklahoma City.

Paints Gloomy Picture

T. F. Mowie, Comptroller of the *Wall Street Journal*, New York, was the next speaker, being introduced by Co-Chairman F. W. Schaub.

Mr. Mowie painted a rather gloomy picture of newspaper publishing caused by high production costs that give no indication of having reached their peak. He forecast 10c dailies and gave as his opinion that publishers should begin to prepare their readers for that move so that if it comes about it won't be such a sudden advance in selling price.

Foreman Link Between Management and Employee

A. C. Croft, President of the National Foremen's Institute, Deep River, Conn., was the last speaker of the afternoon session. He spoke on the need for close and harmonious relationship between employees and management, saying that there is no substitute for such relations if the newspaper is to be successful and prosper. He urged that foremen be made a part of the team producing the newspaper and made to feel that they are a part of the team. The part of the foreman in being able to impart technical knowledge to those under him was formerly the chief requirement of the foreman. But, said the speaker, since the advent of government labor legislation, the foreman has been forced to take on another duty — that of imparting economic knowledge and interpreting economic trends. This together with a good knowledge of people and the ability to apply such knowledge in the plant to better human relations were stressed as musts for foremen today.

Necessary Attributes

Among the attributes that foremen should have the speaker stressed loyalty, courtesy, cheerfulness, frankness and patience.

"Unless management puts out greater human relation efforts in the future," said Mr. Croft in closing his remarks, "management will find it increasingly difficult to meet the problems that are bound to come up in increasing numbers in the future."

MORNING SESSION TUESDAY, JULY 20

THE morning session of the second day of the conference opened with Program Chairman E. H. Evers in the chair who as the first order of business introduced the three co-chairmen who had been assigned to the morning session. They were William Baumrucker jr., of the New York *News*; W. B. Pape of the Waterbury (Conn.) *Republican & American*, and R. S. Stratton of the St. Petersburg (Fla.) *Times*. Mr. Baumrucker then took over the chair.

C. M. Flint, Research Director of the ANPA, was introduced as the first speaker of the session, his subject being *The A.N.P.A. Research Program*. "Research is insurance for the future," said Mr. Flint. "Many industries have gone into research but for some reason the newspaper industry is almost the last of big businesses to launch a nation-wide industry-wide program of research."

The speaker stressed the fact that research takes time and costs money but if continued along proper lines it will pay a return for every dollar invested in it. He held out the picture that research will result in production processes that will enable the newspapers to continue in business so that they can sell advertising at attractive rates and thus make a profit out of their newspaper production.

"We frequently hear complaints leveled against research because it is feared that it will result in something that will destroy a present business or will result in unemployment. I know of no unemployment that has resulted from the fruits of research. With the advent of radio there were some who felt that the day of the newspaper was over. They felt that radio would supplant the daily paper. But, actually, since radio has come into general use, the circulation and advertising revenue of daily newspapers has materially increased which is good proof that our fears are often illy conceived."

Mr. Flint foreshadowed a complete changeover in the production of newspapers in the future but cautioned that before this could become a reality a great deal more must be known about what happens when ink is applied to paper.

"The thousand and one variables that now give the newspaper publishers their daily headaches must be studied and solved before we can hope to get down to improved processes. To determine these variables is the purpose of the long range development of research. For an illustration or two I might cite the tension on a web. We should be able to know ahead of time if the tension on a web is such that it will not break in a run, or if the blanket on the press will stand up for an entire run. When we can determine these variables along with hundreds of others then we will be in a position to go ahead, do something and get somewhere."

"Any research program is a co-operative program that calls for a great amount of co-ordination," continued Mr. Flint. "We are working with manufacturers of printing equipment and supplies, and we have been given their utmost co-operation. In addition, we must have the co-operation of newspaper publishers who are engaged in the production of the very product the production of which we hope to improve. A number of newspaper publishers have rendered us excellent co-operation and we are most grateful for that co-operation. If this research program is to go forward at the rate that we anticipate and hope, then we must have still more co-operation from still other newspaper publishers. Many of our findings will finally have to be tried out in your plants under actual conditions of newspaper production."

"Research is by its very nature a long process," concluded Mr. Flint. "The first year of such a program must be devoted to orientation and planning which if well done should put the research program in a position to really get going full steam ahead during the second year."

Edwin H. Evers asked if there were any newspaper plants now co-operating on research problems. To this question Mr. Flint replied there were three plants working on the problem of mat packing but that the research had not gone far enough for him to be able to make any announcement as to results obtained or results that might be expected.

Research Not New

John G. Strange, of the Institute of Paper Chemistry, Appleton, Wis., followed with a talk on what the paper industry had done on research. The speaker pointed out that research, while generally regarded as something new was actually not new at all. Research, he contended had been carried on in a less pretentious way for years and years. But he added that in recent years it has become a general policy of large industries to go into research as an industry and on a nation-wide basis in order to improve the industry. He decried the popular conception of research that it is something quite mystical and mysterious. On the contrary, he claimed research is nothing more than organized methods of investigation.

Avoid Over-Glamourizing

He stressed the mistake of over-glamourizing research which might in the end result in failure for the whole program. The fact that some research programs go over and some do not was discussed from the viewpoint of pitfalls encountered in research which result in research program failures. Among these pitfalls he cited lack of confidence among all of the members. Another pitfall was given as the lack of co-ordination and co-operation between larger and smaller interests of the group engaged in the program.

"Then there is the danger of making the research program so broad, often to please everybody, that nothing of real value is accomplished," continued Mr. Strange. "And there is the other danger that many in the group will not realize that both time and money, and often plenty of both, are vital to any research program if results are to be accomplished. Big expectations of quick results cannot be realized."

The real payoff of research is the daily application of solutions arrived at by research in the individual plants of the industry, said the speaker. The applications of such solutions often presents a difficulty in plants where they are applied.

Research Not a Package

"Research is not a package that needs only to be unwrapped and used," he continued. "The individual plant must take the findings of research and apply them to his own individual plant. In closing, I would urge you to not become impatient with research because it doesn't seem to bring the results you anticipated in the time you expected. Research takes time but if properly done will pay off in the long run."

Russell S. Stratton of the St. Petersburg (Fla.) *Times*, took over at this point as Chairman, introducing R. B. Quackenboss, Chief Engineer of the Rollins Burdick Hunter Co. of Chicago who spoke on the subject *Fire Hazards in Newspaper Plants*. The speaker gave a lengthy talk on fire hazards and how to prevent them. At the conclusion of his remarks several questions were asked from the floor by delegates who had specific hazards on which they desired advice.

Flammability Tests

John W. Park, Production Manager of the Chicago *Tribune*, followed with an illustrated talk on *Flammability of Press Rollers and Blankets*. Mr. Park described tests that he and the late Ray Hahne of the Chicago *Times* made of fire resisting qualities of press rollers and blankets following the fire in the Chicago *Times* pressroom in 1938. The tests were made in the Underwriters' Laboratories in Chicago. For these tests, ten makes of press rollers were gathered together and three makes of blankets. Some were new and others were used. Of the ten rollers there were two composition rollers, five synthetic rubber rollers and two rubber rollers together with one used roller of unknown make. One of the blankets was of synthetic rubber and two were of felt.

Slides were exhibited to show the tests in progress and clearly demonstrated the result of the tests, namely, that most makes of synthetic rubber rollers will not support fire. In the case of the blankets, the one made of synthetic rubber stood up best, showing a lack of combustibility. In the case of the blankets made of felt, the coating burned to a considerable extent.

W. B. Pape of the Waterbury (Conn.) *Republican & American*, then took the chair as Chairman for the closing feature of the morning session which was a discussion of *The Problems of Stereotyping*, led by Production Manager L. J. Griner of the Detroit *News*.

Holds Key to Efficient Production

"The stereotyping department is the key to production in a newspaper plant," said Mr. Griner in opening the discussion. "The composing room can easily lock up pages faster than the stereotype room can cast them. From this it is evident that the stereotype room holds the key to efficient newspaper production. Because of this, it has always been my contention that the schedule in every newspaper plant should be closely geared up to the productive capacity of the stereotype department."

Continuing his brief opening remarks, the speaker stressed the lack of progress that has been made in the stereotype department and intimated that here was a fertile field for research and progressive developments. Among other things mentioned as appearing to be much needed were measuring devices by means of which it would be possible to measure the depth of mats as well as casts.

The discussion was then thrown open to the delegates and questions were invited from the floor. This proved to be one of the highlights of the conference up to that time and produced a most lively interest on the part of the delegates.

The first question: "Why the high shrinkage mat?" brought out a single answer that seemed to express the consensus of opinion, namely, that it is the result of the desire to run more revenue pages without an increase in newsprint consumption.

Direct Pressure Molding

Direct pressure molding machines was next thrust into the discussion picture by projection of the question: *What is the best combination of blankets to use with direct pressure molding machines?*"

George H. Fuller, Stereotype Supt. of the Cleveland *Press*, took the floor first with an answer to that question. He gave as his experience that cork blankets will not yield satisfactory service with the direct pressure molding machine because of the tendency of the cork blanket to stretch in its own plane. He stressed the idea that with direct pressure machines it is necessary to use a blanket that will not stretch either sideways or lengthwise but will allow for compression only downward or at right angles to the surface of the blanket. This can only be accomplished he said by using a blanket that is hard enough to prevent stretching in its own plane. With such a blanket he claimed it is possible to get halftone cuts and the type alongside them with equal fidelity, both in detail and size.

"*Do you bump?*" quickly followed from one of the delegates.

To this Mr. Fuller, who was still on the floor, replied that in general the Cleveland *Press* does not bump. However, he added, on Friday and Saturday it did bump special pages. It was indicated that lack of time prevented bumping at other times. He added that bumping serves to eliminate many of the imperfections to be found in the halftone areas of mats.

"*If type stands up under a roller but breaks down under direct pressure, is that an indication of too much pressure?*" was the next question.

Charles M. Kirk, Stereotype Supt. of the Detroit *News*, took the floor to answer this question. He gave as his opinion that if the type is good it will stand up equally well under direct pressure as when rollers are used.

No "Best" Combination

After disposing of the question, Mr. Kirk reverted to the previous question as to what is the best combination of blankets for use with the direct pressure molding machine. The speaker said that mats like newsprint vary considerably and as a result it is impossible to lay down any hard and fast rule as to what is the best combination of blankets for direct pressure machine or any other type of mat producer. Because of the fact that the direct pressure molding machine is comparatively new, nobody, in Mr. Kirk's opinion, has yet arrived at the answer to the question of what is the best blanket combination to use with this machine.

Measuring Means Needed

The question of measuring the depth of the mat was then interjected into the discussion by Joe Goggin of the Newspaper Publishers Supply Co. It was this speaker's opinion that in using the direct pressure molding machine the stereotyper must start from scratch and begin all over again. And to help the stereotyper do this, it was his belief that some accurate measuring instrument is necessary so that the stereotyper could know just how deep a mat he is getting. Visual methods of judging the depth are not efficient or sufficient, he added, because visual methods are so deceiving. In general, he suggested using as thin a blanket as possible and then bumping it without the blanket for a second operation.

He then brought up the unequal widths of the two sides of the chase, stressing the extra width of the chase on the lock-up side as producing greater resistance and thus preventing an equal distribution of pressure over the entire form during the molding operation. He advocated a chase with possible 1 in. plane surface all around the type form and then gradually tapering off the top surface to avoid this interferance with the equal distribution of pressure over the entire form when the mat is under pressure.

Answering definitely the question: *What is the best combination of blanket to use?*, Mr. Goggin gave as his opinion that a thin cushion of cork with a series of cushions on top of that was the best combination. The reason for the use of the series of cushions on top of the thin work cushion was to delay the maximum compression just enough to avoid the too quick shock resulting from direct pressure molding. This, he said, resulted in a much better mat and consequently a much better cast.

Frank Tighe of the Certified Dry Mat Corp., spoke briefly on the Vernier Microscope as a measuring instrument but there seemed to be some question whether this was too complicated an instrument for use in the average stereotyping department.

Henry G. Hawkins of the Kalamazoo (Mich.) *Gazette*, told the delegates that he measures the cast rather than the mat but added that as far as he was concerned it would be very good if there was a simple and inexpensive instrument by means of which the depth of the mat could be measured.

The chairman then asked how many delegates would be interested in an

instrument for the measuring of the depth of a mat. About 75 raised their hands as indicating an interest in such an instrument.

J. Terrance Mahan, Stereotype Supt. of the Akron (O.) *Beacon-Journal*, followed with a question on the value of carboloid-tipped saws and whether their increased life justified the added expense of such tipping.

George H. Fuller of the Cleveland *Press* took the floor to answer this question. He reported that such tipping greatly prolongs the life of the saws and more than justified the cost of tipping.

The final question in the discussion was offered by A. W. Barrow, Stereotype Supt. of the Indianapolis (Ind.) *Times*, who asked: *Does the coating in a dry mat have any effect on the surface of the plate and does it serve any purpose except to help the mat separate from the plate?*

Victor Fishburn of Burgess Cellulose Co., answered by saying that the only purpose was to make it possible to use the mat for repeated casts if necessary.

AFTERNOON SESSION TUESDAY, JULY 29

THE afternoon session on Tuesday, July 20 got under way with Program Chairman Edwin H. Evers in the chair who introduced Charles H. Ruth, Superintendent of the Washington (D.C.) *Star*, as chairman for the first portion of the afternoon program.

W. E. Turner, Truck Division, General Motors Corp., was then introduced as the first speaker on the subject *How to Select the Proper Truck*.

Mr. Turner exhibited slides to illustrate his talk showing various types of truck bodies used by different newspapers over the country. He also showed how to load a truck properly so that the correct weight distribution would produce the maximum life for the truck and reduce maintenance expenses of a prohibitive nature.

Don't Overload Trucks

In answering the questioner, Mr. Turner pointed out that no truck should be overloaded even if the overload is to be carried but a short distance. To do so courts danger of a breakdown, increased maintenance costs and a shorter life for the truck. He gave as the only solution the use of extra trucks to help out with the large editions such as are put out by newspapers on Sundays.

T. A. Corcoran, Purchasing Agent of the Louisville (Ky.) *Courier-Journal and Times*, was then introduced as the chairman for the remaining portion of the afternoon session.

J. W. Barrs of the Signode Steel Strapping Co. spoke on the wire-tying machine made by that company. He indicated that machines ordered now might be expected for delivery during the third quarter of next year.

A. E. Katz of the Toronto (Can.) *Star*, followed with a talk on a wire-tying or bundling machine that had been developed and put on the market by his publication. He described the operation of the Wallastar bundler.

McGuire Discusses Mailing System

C. R. McGuire, Assistant Mechanical Superintendent of the Minneapolis *Star and Tribune*, was next introduced, speaking on the subject *Mailroom Operation at Minneapolis Star and Tribune*. He illustrated his talk with slides.

The mailing room of the Minneapolis *Star and Tribune* has been in operation since the first of the year, he told the delegates, and was designed to provide the maximum of space with as few columns and posts as possible. The dimensions of this mailing room were given as 210 ft. long and 208 ft. wide resulting in 43,680 sq. ft. of floor space.

"There are seven assembly lines in the mailing room," continued Mr. McGuire, "each with two conveyor tables, one makeup table and one tying machine. Each tying machine drops bundles into either of two spiral chutes which empty into the garage below where 14 trucks can stand in readiness for loading at one time."

A hydraulic lift at one end of the mailroom is used for taking up room supplies to the second floor. In addition to this, the speaker told the session there is an endless belt conveyor that runs to the mail room from the garage loading platform below and on which bundles of *This Week* magazine and the roto sections of the paper can be delivered to the mail room.

"We do one thing differently from most Sunday newspapers," continued Mr. McGuire, "and that is we do not send out any part of the Sunday issue of the *Tribune* in advance of publication date. A complete Sunday issue is delivered as a unit on Sunday. Using the ABC circulation audit as of last March which was 565,976 and which is much greater as of today, you can readily see the amount of work that this procedure involves in assembling the Sunday issue."

Mr. McGuire then discussed the assembling job done on the Sunday issue. One complete Sunday issue, he said, necessitates four separate inserts, namely the comic section, the roto section, *This Week* magazine, the society section and the main news section.

The 16-page comic section goes to press on a Friday morning, nine days before publication date. Between 60,000 and 80,000 copies of the comic section are run off so that the Sunday mailers can start inserting them with the magazine which is delivered to our plant early Sunday morning. Monday and Tuesday the roto section comes in, which gives the mailers a double job in order to clean up the remainder of *This Week* magazines. The roto section, he said, is put on the outside of the Sunday issue. By Friday afternoon the comic section, *This Week* magazine and the roto section are all inserted.

"What we call the country mail edition goes to press at 6:30 Friday evening with a press run of about 370,000 copies which is inserted on Saturday morning with the help of 122 outside inserters," continued the speaker. "These start to work on Saturday morning at 10 o'clock and finish the country mail society edition at 1:45 on Saturday afternoon.

"The city society is then ready to insert. The city edition goes to press at 1:30 o'clock Saturday afternoon with a press run of 220,000 copies. On this run we use two presses, one shutting down at 5:30 to strip and change over so as to be ready for the main news section that goes to press at 7 o'clock on Saturday evening. The other press finishes the run and clears at about 6 o'clock Saturday evening. Their time is up at 6:30 that night.

"At 7 o'clock, 145 inserters are ready for work on the main news insert. At the same hour the first edition of the main news section goes to press. This is a mail edition and has a run of 105,000 copies, four presses being used. The run is finished at about 5 min. after eight. Our Mid-West edition follows. That run starts at 8:15 with a run of 155,000 copies which run is finished at 10 o'clock. From 10 until 10:30 is the pressmen's lunch hour. The mailers clear this run and go to lunch from 10:30 until 11 o'clock.

"The third run is the State Edition with a press run of about 120,000 copies. This run starts at 10:40 and is finished at around 20 min. after midnight Saturday. The final run, the City Edition, goes to press at 12:45 with a press run of 220,000 copies and is finished at about 2:30 Sunday morning. The mail room is cleared around 3 o'clock."

McArthur's Frankness Pleases

C. P. McArthur of The Dick Mailer, Buffalo, N. Y., was then introduced as the last speaker of the afternoon session.

Mr. McArthur, told of his purchase of the old Dick mailer and of the condition in which he found the affairs of the company. His humorous treatment of the whole mess made a hit with his executive audience. The speaker then told of improvements that have already been made in the Dick mailer and asked those present to feel free to send suggestions for other improvements to him, promising that all suggestions would be most carefully considered and worked on with the end in view of improving this mailer.

The speaker especially stressed the desire to make the mailer automatic but cited the difficulty in doing that because of the varying depths of addresses. He asked for suggestions along this line and asked if those present would be willing to adopt a standard depths of address, say four lines so that all addresses would be of the same depths. In that way, Mr. McArthur said, the Dick mailer could easily be made automatic in operation.

NIGHT SESSION TUESDAY, JULY 20

A NIGHT session was held Tuesday, July 20 with a single speaker, C. M. Flint, Research Director of the ANPA who spoke on the subject *New Processes and Techniques of Producing News-*

papers. His talk was illustrated with slides showing the actual use of these new adaptations in some of the country's leading newspapers.

The evening session opened with ANPA Committee Chairman J. L. Stackhouse in the chair. He immediately introduced V. R. Spitaleri, assistant to Walter E. Wines, Manager of the ANPA Mechanical Dept. as chairman of the meeting.

Mr. Flint in opening his talk definitely indicated that he was not going to talk about research but rather about some new processes that were being used in an emergency to issue large daily newspapers in this country. He then discussed the various methods and equipment which makes use of typewriter-like machines and the photo-engraving etching process instead of standard typesetting as a means of producing newspapers. As he spoke he showed slides that gave actual views in various papers where the news sections, the advertising sections and the classified and display classified sections were set up and made ready for the stereotype department by other than typesetting methods.

MORNING SESSION
WEDNESDAY, JULY 21, 1948

THE morning session of the third and last day of the conference opened on Wednesday, July 21 with Chairman J. L. Stackhouse in the chair. He announced that J. J. Shea of the Hearst Newspapers of New York, N. Y., who was to be one of the co-chairmen for the morning's session was unable to be present. In his place, Mechanical Supt. A. H. Burns of the New York *Herald Tribune*, was introduced as chairman for the first portion of the morning's program together with Maurice Hagan, Photo-engraving Superintendent of the Philadelphia *Inquirer*, as chairman for the closing portion of the session.

Excellent Film

E. H. Gould, Engineer, Socony-Vacuum Oil Co., was introduced as the first speaker of the morning's program. Mr. Gould gave a brief talk on the place of proper lubrication in industry and then proceeded with the showing of the sound movie entitled *The Inside Story* which showed in a most graphic manner the tremendously important part that proper lubrication plays in the smooth and efficient running of machinery. This picture is Grade A in every respect and one of the finest we have ever seen.

A brief question period followed during which the question of the so-called re-refining of oil was brought up, with respect to what lubricating value such oil might have. Mr. Gould said that oil might be reclaimed and cleaned but that such oil would not be suitable for a lubrication job in a circulating system. He added that such reclaimed and re-cleaned oil could be used for some purposes, however.

Pressroom Informal Discussion

Earl Weiskittel, Pressroom Supt. of the Youngstown (O.) *Vindicator*, was introduced as the next speaker on the program. Mr. Weiskittel spoke from his broad experience and laid down some basic procedures in discussing his topic, *Pressroom Management*.

Good pressroom management, the speaker told the executives, is a combination of good sense together with technical knowledge of the job. Every foreman should have a thorough working knowledge of the presses under his jurisdiction so that he will be in a position to properly oversee the job. The pressroom foreman who does not possess more press operation knowledge than the men under him will shortly find himself in a position where his ability will be seriously questioned by the pressmen.

Qualities of a Foreman

"The good foreman," continued the speaker," should strive for good personnel relationship in his plant. After all, the foreman in a plant is dealing with men and not with machinery. He should not be above giving praise where praise is due. As a leader, which is what a foreman really is, he should realize that he must lead and not try to drive. Instead of trying to force him to do what the foreman wants him to do, the foreman should endeavor to get the man to want to do what the foreman wants done.

"Another fault that I find among foremen," Mr. Weiskittel said, "is that too often they try to do everything themselves instead of delegating some of the work to others. If this phase of pressroom management is properly handled, the men will respond readily to taking on various jobs providing it is evident that the foreman isn't just trying to get out of doing something himself. After all, most men respond quickly to a square deal.

"The foreman should stick to his ideas but with an open mind. And when he is shown that he is wrong he should be quite willing to acknowledge it and let those who convinced him of the error know that their proof is welcomed. The ability to accept criticism is a quality that some foremen do not have but it is an excellent quality for building up a team and getting team work. Not only should the foreman be willing to graciously accept criticism from his superiors but also from the men under him."

To Obtain Efficiency

"In order to obtain the maximum efficiency from a pressroom," said Mr. Weiskittel, "the press rollers and blankets should be kept in proper condition at all times. The equipment should be properly lubricated. All equipment should be checked at stated intervals to make certain that it is in condition for the runs expected of it. For efficient operation, a program should be established which not only takes recognition of a starting time for the runs but which also provides a working schedule for making adjustments and other changes. At the Youngstown *Vindicator* we use a chart which makes it possible for any of the men to set up a run.

Continuing with his remarks, the speaker stressed the necessity of having the best equipment and supplies always available so as to get the best production possible. Along this line, he told of the Elwell-Parker electric truck used in his own plant for the handling of newsprint which effects a saving in both time and labor. Another instance of efficiency as practiced at the Youngstown plan is the grinding of its own rubber press rollers with the result that no large stock of extra rollers is necessary.

The value of records was touched upon in Mr. Weiskittel's closing remarks. He told of the records kept in his plant at Youngstown which include a record of all impressions, a record of all waste with its incidental result of helping to eliminate waste, a record of all breaks with later investigations to seek to determine the cause of the breaks.

"For maximum efficiency," concluded the speaker," I would urge the use of precision instruments wherever possible, providing sufficient manpower to do the required job efficiently, keeping the machinery clean at all times, keeping the presses in alignment and not changing them for every roll of paper, observing all safety rules and endeavoring to obtain the greatest co-operation from each and every other department of the newspaper."

Ink Misting Troubles

The question of ink mist getting into the mailing room from the pressroom, in cases where the mail room is over the pressroom, was the first question brought up.

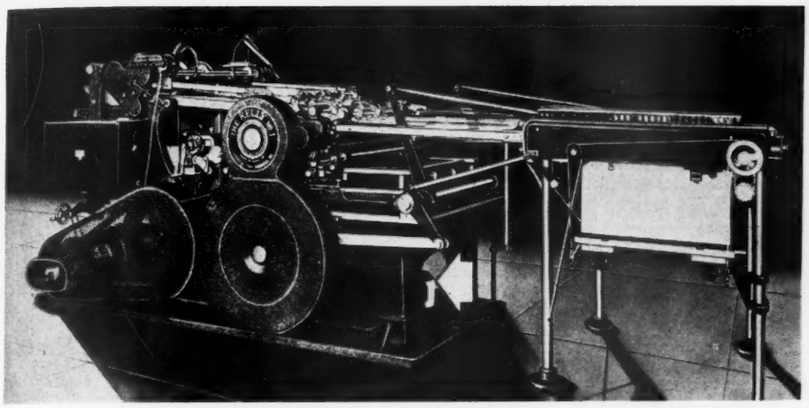
Paul Brannan, Pressroom Supt. of the Cleveland *Press*, responded with his answer to this question. He said that in his plant he had that trouble but he anticipated that when changes now being made in the plant were completed this trouble would be eliminated.

J. Harold Mintun of the Pittsburgh *Post-Gazette*, related that in his plant they were having the same trouble but that a solution was being worked out which they felt would remedy the situation. The solution was to create a partial vacuum in the pressroom by seeking to accomplish as nearly as possible what he plainly said was an impossibility, namely, taking out more air from the pressroom than was put into it.

Classer P. Perkins of the Waterbury (Conn.) *Republican & American*, said that in his plant they had had the same trouble but that it had been eliminated by installing steel plates notched for the passage of the conveyor wires and then covering these steel plates with old felt.

John W. Park, Production Manager of the Chicago *Tribune*, reported that in his plant the sought-for results were obtained by enclosing the press units (including the ink rollers) which not only prevented the ink mist from getting into the mailing room but also kept it down in the pressroom. He added that the

(Continued on Page 72)



Courtesy of American Type Founders Sales Corp.

Figure 1—Side view of the ATF Kelly No. 1 press which is equipped with the Bijur automatic oiling system for metering clean oil automatically to each bearing while the press is running.

Printing Machinery Lubrication

By A. F. BREWER*

**Technical and Research Div., The Texas Company, 135 East 42nd St., New York 17, N. Y.*
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FIVE centuries ago, John Gutenberg pioneered the art of printing when he is supposed to have adapted a modified wine press for printing from cast metal type. He was not the first to think of the idea of printing from blocks, however, because the Chinese had antedated him by many years in their efforts to reduce the tedious labor of hand copying, although they apparently had nothing in the way of a press. Until three hundred years after Gutenberg the old style wooden hand press was still in use. Not until the early 1800's were presses of more mechanical nature devised.

The mechanics of printing were accelerated by the advancement of rail transportation and the demand for more rapid circulation of the news. This required higher speed press operations. When Hoe perfected his relatively high speed news press in 1871 mechanisms of considerably greater intricacy were made use of. These involved a variety of gears and closer bearing fits.

This forerunner of the modern news press required careful lubrication for its maintenance, even in those days. Fortunately, the petroleum industry had developed by then a dependable type of lubricating oil which could take the place of the more costly and more unstable animal or vegetable oils. Naturally, these petroleum derivatives soon found a place in the press room. Later the art of grease-making progressed and made available the highly stable, oxidation-resistant greases which are now so essential for the anti-friction bearings.

PRESS DESIGN

The nature of the work to be done, dictates the type of press employed and is an indication of the running speed which is practicable. Three types of machines are available today, i.e.:

The platen
The flat bed, and
The rotary press.

They all serve the same primary purpose of impressing printed characters from a plate or form onto a single or a continuous sheet of paper.

The Platen Press

This is the most simple mechanism; it is a device used largely for short run mailing pieces such as cards, envelopes, or circulars where from five to ten thousand impressions will be maximum. In such service, it is economical, due to its simplicity, ease of operation, and the rapidity with which the form can be made ready and registered. A platen press is a one-man machine; it requires but little power and floor space, and it can also be easily changed from one job to another.

Flat Bed and Rotary Presses

Publication printing, however, requires a more complex mechanism to meet modern production requirements in job printing, newspaper and magazine work. Flat bed cylinder presses and rotary presses are best adapted to such service. Speed of production is one of the most important factors in news printing hence the acceptance of the rotary press with its ability to turn out thousands of impressions per hour.

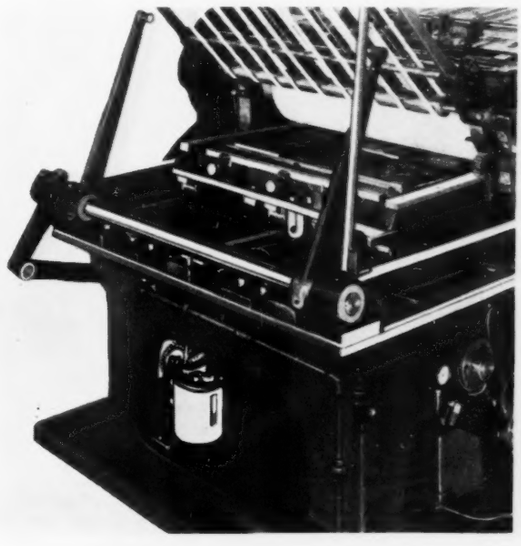
Press construction must be understood to appreciate the necessity for effective lubrication of press mechanisms.

In the cylinder press, the paper receives its impression by passing around one or more impression cylinders in contact with either a flat bed of similar cylinder which carries the plates of typographical matter. It is possible to print in either one or two colors on one side of the sheet on a flat bed press, or to otherwise so design the press as to print in one or two colors on both sides of the paper in one operation.

THE FLAT BED PRESS

A variety of presses have been developed and perfected since the press went "mechanical" in the early part of the nineteenth century. Since then practically all the improvements have included some mechanical means for speeding up production, obtaining better reproduction and reducing the amount of labor required to handle paper on and off the machine. Speed of run really became practicable when the perfection of the electric motor enabled use of this device for driving the press and its related feeding machinery.

In the modern flat bed press, the paper is fed to the press guides in individual sheets, and the plates or type matter lie perfectly flat on the press bed, being securely locked in place. The paper is carried by a suitable device to the im-



Courtesy of American Type Founders Sales Corp.

Figure 2—Front view of the ATF Kelly No. 1 press showing the Bijur oil reservoir beneath the frame. Another view of this is shown by arrow in Figure 1.

pression cylinder which in turning passes each sheet through in contact with the type bed, to bring about the impression, the type bed moving on a track under the cylinder at the same speed as the cylinder periphery.

Two or more sets of steel anti-friction rollers which travel on steel tracks installed the full length of the press carry the type bed. In operation the bed travels backward and forward periodically, being actuated by a suitable crank mechanism driven by gears from the main drive of the machine. As the direction of motion of the type-bed is changed the impression cylinder is automatically lifted from contact by means of suitable cam mechanisms in order to permit the cylinder to rotate continuously in one direction. Generally two revolutions of the cylinder are made to one backward and forward movement of the bed.

Inking Requires a Unique Mechanism

The inking device is of interest to the petroleum industry, since certain selected petroleum oils form the base of certain grades of printing ink. This ink is handled via a fountain, several distributing rollers, an ink plate which moves back and forth with the type bed, and several form rollers. Elastic composition and hard metal surfaces alternate, the fountain, ink plate, and lateral distributors being metal. The ink rollers, form, ductor and regular distributors consist chiefly of glue and glycerine, although rubber or other composition material may also be used. There are two sets of inking devices in the flat bed press designed for two-color work or the simultaneous printing of both sides of the paper in one color.

Printing ink is rather tacky, so in order to insure as perfect and uniform distribution as possible the several distributing rollers through which it is passed before being applied by form rollers to the type plates, are usually arranged to move from side to side across the press with respect to each other during rotation. Their actual distance of travel is only a few inches, but the combination of rolling and sliding contact serves to effectively break up any larger particles of ink to suitable fineness and distribute it evenly along the length of each succeeding roll. The reciprocating motion of these vibrating rollers is brought about by means of special cam mechanisms.

Function of The Air Heads

Change of motion takes place rapidly in the flat bed press, the bed coming to an absolute stop on dead center for each revolution of the cylinder. This type of press is, therefore, frequently equipped with from two to four air heads located at each end of the machine in order to afford a temporary storage of energy when the bed approaches the end of its stroke. This accumulated energy serves to aid in starting the bed in the opposite direction to reduce the power required; it also relieves the pressure and shock on the driving mechanism during this period of stopping and starting.

Air heads function most effectively when the piston is fitted snugly in the cylinder. Yet the piston must enter with perfect freedom. Leakage of air would be a detriment; therefore, the ends of the pistons are usually fitted with leather cup packings, or piston rings. When properly installed and of sufficient pliability to conform to any minor undulations in the surface of the cylinder, these cups or rings help to trap the contained air upon entering, and to expand almost immediately due to the increasing pressure encountered. An effective seal is thus attained with full benefits of the compression. Inasmuch as this seal will be governed largely by the condition and manner of setting of the leather packing or the freedom of the rings, it is most important to observe the utmost care in handling. Leathers must be properly centered on the piston, capable of readily entering the cylinder, and quite soft and pliable; rings must expand or contract freely.

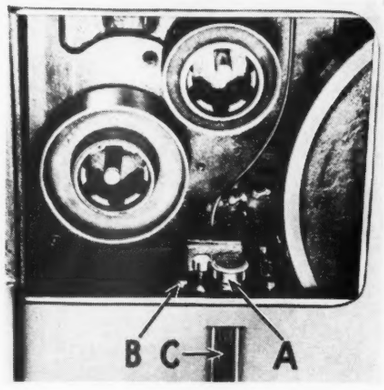
Air Head Lubrication

Air head lubrication must be planned according to the type of seal. Where leathers are involved they can be treated by periodic soaking or boiling in neatsfoot oil.

The walls of the cylinders, in turn can be lubricated by a medium bodied, average melting point grease. A suitable film of such a lubricant will not only reduce rubbing friction to a marked extent, but also will insure against leakage of air. On newer flat bed machines with air heads fitted with piston rings, cylinder wall and ring surface lubrication is maintained by a drip feed oiler designed so that as oil enters the cylinder it is atomized and spread by the air being compressed.

Main Gear Lubrication

The main driving gear in a flat bed press is another very important piece of mechanism which must be lubricated.

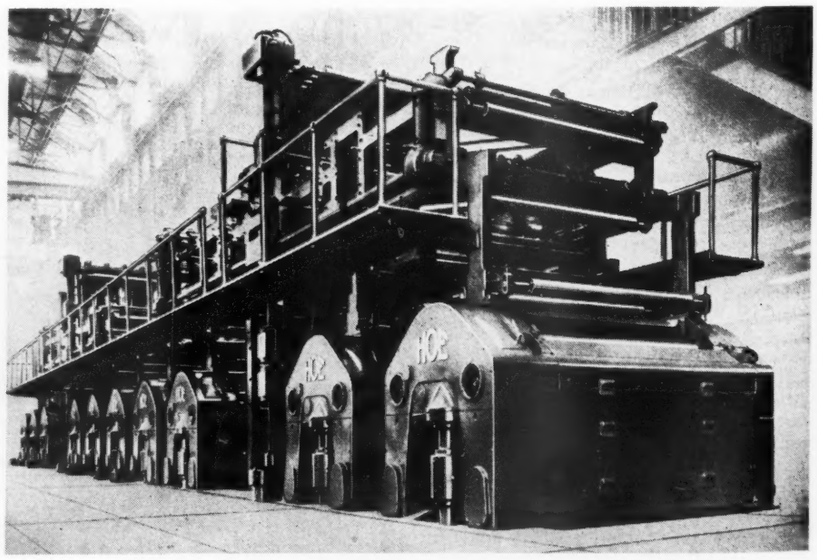


Courtesy of Miehle Printing Press & Mfg. Co.

Figure 3—Location of pump unit for automatic lubricating system for the Miehle 29 Letterpress . . . (A) is opening for filling reservoir; (B) the priming button and (C) the oil level gauge.

This gear carries the entire load of the machine and can be subjected to considerable wear because of lack of attention due to its usually inaccessible location beneath the type bed. This gear may also be subject to especially severe service when the air heads are not functioning correctly or where the pressure is not properly equalized. The abnormal jar resulting every time the press bed starts and stops would naturally subject the teeth to severe and uneven shock, with the result that wear would be excessive or, in extreme cases, the teeth might be stripped or chipped.

The best preventive measure is to keep the teeth well coated at all times with a good adhesive, heavy-bodied lubricant, which will not only resist squeezing out but will be capable of furnishing a sufficient cushion to prevent metal-to-metal contact between the gear teeth. There must be no tendency towards excessive fluidity even under abnormal tempera-



Courtesy of R. H. Hoe & Co., Inc.

Figure 4—The new Hoe color-convertible newspaper press equipped with roller bearings, oil tight gear casings and visual-automatic force-feed lubrication.

a good investment in

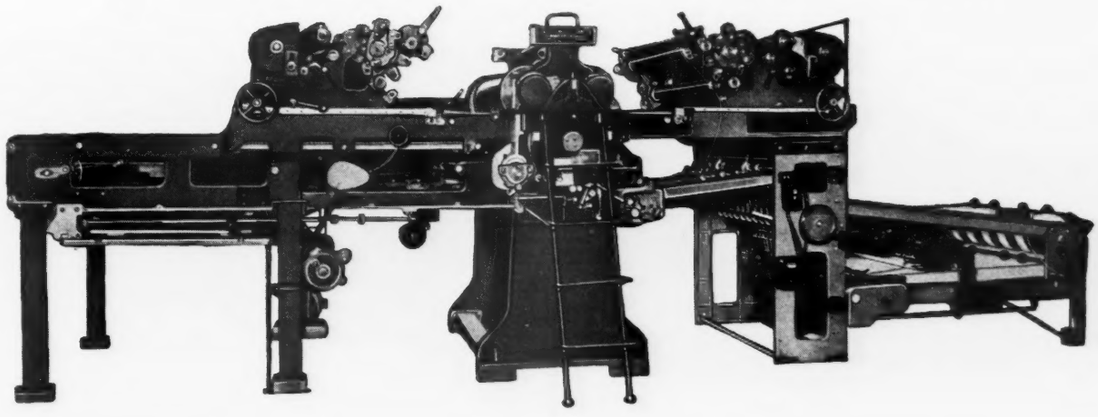
COLOR

PRINTING

THE COTTRELL TWO-COLOR SHEET-FED ROTARY

Here is a press designed and engineered to achieve dependable, and often record breaking production of flawless color printing. These outstanding two-color presses will print at speeds of up to 4500 sheets per hour or 5500 sheets per hour depending upon the size of press used.

In every aspect from quality to volume delivered, the Cottrell two-color rotary should be considered in the printer's plans.



Cottrell

C. B. COTTRELL & SONS CO.

Westerly, Rhode Island

New York: 25 E. 26th St. • Clayburn Division: 3713 N. Humboldt Ave., Milwaukee, Wis.
Chicago: Daily News Bldg., 400 W. Madison St. • Smyth-Horne, Ltd., 13 Bedford Row, London W.C. 1, Eng.

tures so as to insure permanence in the film of lubricant and reduce the chance of throwing.

Other Moving Parts

The flat bed press also presents an assembly of bearings, cams, rollers, smaller gears and chains which must be lubricated.

Flat Bed Press Bearings

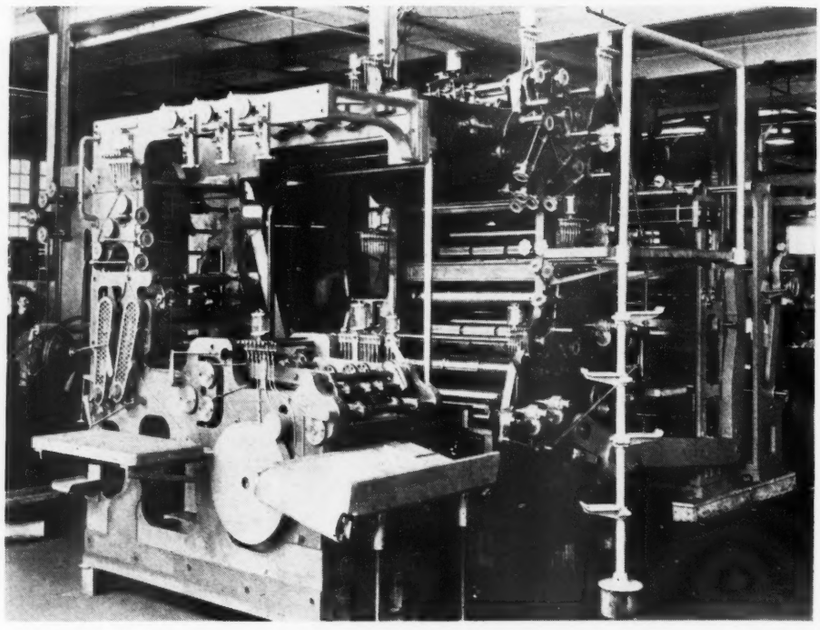
While most of the bearings on modern printing machinery run at room temperatures, some may be heated as for example at the ends of ink rollers. These are often fitted with reservoirs in the top bearing cap or to one side of the base. These reservoirs are customarily packed with waste and designed for oil saturation at regular intervals. All bearings are not so accessible, however, for some are located beneath the press. To serve these, suitable piping is usually run from the holes in the bearing caps to the side of the press. Either oil or grease can be used according to the means of lubrication and the type of bearing. Centralized pressure oiling is well adapted to such bearings, using straight mineral oils of medium viscosity (viz: from 200 to 500 seconds saybolt at 100 degrees Fahr.).

Special attention must be given to such parts as bed motion shaft boxes, flywheel shaft boxes, cylinder and eccentric boxes. In fact, any bearing part located adjacent to the side frame or set in a close fit between the side frame jaws as are all types of cylinder boxes, require regular and careful lubrication. Any impairment of lubrication at these points may cause roughening of the wearing surfaces, etc., with the possibility of the cylinder being unable to take its full lift. This would affect the register and cause slurs.

For grease lubricated bearings products of medium consistency should be used which can be readily handled in compression cups or pressure guns. Resistance to oxidation is recommended to obviate tendency to gum, otherwise the bearing grooves or races may become clogged to interfere with distribution of the lubricant.

Cams, Gears and Chain Links

This same grease, or the bearing oil is usually also applied to cam surfaces and chain links. On such parts, throwing o the lubricant can be objectionable. Even so, some types of presses not expressly designed for protected lubrication will permit a certain amount of lubricant to drain through plain bearings and find its way out along the end of the shafts to ultimately drip upon the mechanism below, or onto the floor. As a result, there will practically always be a certain amount of free lubricant in the process of dripping; and interior cams, gears and chains will receive their share. So there is usually but little chance of any such mechanisms being under-lubricated provided the bearings above receive sufficient lubrication. Putting light or medium bodies lubricants on gears is not always advisable especially if heavy gear lubricants have been used first. Mixture of the two may present a problem for the gear lubricant may be so thinned down by the lighter oil as to destroy its adhesiveness and protective ability. Many pressman, therefore, prefer a relatively heavy grease with sufficient soap content to insure against too great a reduction in the body of the lubricating film. Others rely on the press oil to lubricate their gears, oiling the latter with the same care and regularity they observe for their bearings. On lighter gears, oil will prove a very dependable lubricant, but the heavier roll gears will usually function with less noise, less wear and greater efficiency if a lubricant specifically designed for gears is used.



Courtesy of Kidder Press Co., Inc

Figure 5—Showing the gravity type sight feed oiling systems piping and connections on a Kidder press.

NEWSPRINT AND THE NEWS PRESS

In a space of nearly a century and a half the production of newspapers has progressed from around 800 copies per hour per press to approximately 80,000 copies. This advancement has been made by improved mechanization of the news press which today requires considerably less labor.

Use of the cylinder press contributed markedly to this speed-up of production; it was the forerunner of the modern rotary news press. In this machine the paper is fed to it in a continuous sheet or web from a roll; hence, the origin of the term "web press." This is a rotary cylinder machine wherein the plates of typographical matter are curved to the periphery of the type cylinders and retained thereupon in proper relation to each other by means of a suitable locking device which is set when the press is made ready.

A news press is a complete producing unit in itself, by virtue of the fact that it can be constructed so as to print the paper on both sides, cut the printed web into pages along the proper margins, collect the necessary number of pages in numerical order into insets of desired size, fold the completed sets and deliver them ready for distribution by the newsdealers. The latest types of high speed presses can produce up to 120,000 papers per hour of a maximum of 16 pages inset, or 30,000 per hour of a maximum of 64 pages collected.

The production of such a press when applied to the printing of magazine insets for newspapers is also of interest. Typical examples of such work are the comic sheets and colored supplements in the Sunday papers. One of the largest presses of its kind in the world is capable of printing in from one to four colors, the maximum production ranging from 144,000 8-page 2-color insets to 36,000 16-page, 4-color insets per hour. Varying combinat ons are also possible in between depending upon the color arrangements and number of pages.

Four distinct printing sections or units are involved in a modern high speed octuple news press, located in pairs at each end of the machine. Between these units are the folding devices. There are two plate cylinders to each unit; upon these the curved stereotype plates are securely locked in place; opposed to the plate cylinders are the impression cylinders which serve to press the paper against the former, their surfaces being covered with blankets made especially for obtaining the proper impression. Each plate cylinder carries eight stereotype plates each the size of a full newspaper page, so the entire press has a capacity of sixty-four plates or pages of newsprint when "fully dressed" or ready for maximum production.

8 Point: How is one to assess and evaluate a type face in terms of its esthetic design? Why do the pace-makers in the art of printing rave over a specific face of type? What do they see in it? Why is it so superlatively pleasant to their eyes? Good design is always practical design. And what they see in a good type design is, partly, its excellent practical fitness to perform its work. It has a "heft" and balance in all of its parts just right for its size, as any good tool has. Your good chair has all of its parts made nicely to the right size to do exactly the work that the chair has to do, neither clumsy and thick, nor "skinny" and weak, no waste of material and no lack of strength, and, beyond that, the chair may have been made by a man who worked out in it his sense of fine shapes and curves and proportions: it may be, actually, a work of art. The same thing holds for shapes of letters. And your chair, or your letter (if a true artist made it) will have, besides its good looks, a suitability to the nth degree to be sat in, or stamped on paper and **How is one to assess and evaluate a type face in terms of its esthetic design? Why do the pace-makers in the art of printing**

8 point on 9-point body

9 Point: How is one to assess and evaluate a type face in terms of its esthetic design? Why do the pace-makers in the art of printing rave over a specific face of type? What do they see in it? Why is it so superlatively pleasant to their eyes? Good design is always practical design. And what they see in a good type design is, partly, its excellent practical fitness to perform its work. It has a "heft" and balance in all of its parts just right for its size, as any good tool has. Your good chair has all of its parts made nicely to the right size to do exactly the work that the chair has to do, neither clumsy and thick, nor "skinny" and weak, no waste of material and no lack of strength. And, beyond that, the chair may have been made by a man who worked out in it his sense of fine shapes and curves and proportions: it may be, actually, a work of art. The same thing holds for shapes **How is one to assess and evaluate a type face in terms of its esthetic design? Why do the pace-makers in the art of**

9 point on 10-point body

10 Point with *Italic* and SMALL CAPS: HOW IS ONE to assess and evaluate a type face in terms of its esthetic design? Why do the pace-makers in the art of printing rave over a specific face of type? What do they see in it? Why is it so superlatively pleasant to their eyes? Good design is always practical design. And what they see in a good type design is, partly, its excellent practical fitness to perform its work. It has a "heft" and balance in all of its parts just right for its size, as any good tool has. Your good chair has all of its parts made nicely to the right size to do exactly the work that the chair has to do, neither clumsy and thick, nor "skinny" and weak, no waste of material and no lack of strength. *How is one to assess and evaluate a type face in terms of its esthetic design? Why do the pace-makers in the*

10 point on 11-point body

11 Point with *Italic* and SMALL CAPS: HOW IS ONE to assess and evaluate a type face in terms of its esthetic design? Why do the pace-makers in the art of printing rave over a specific face of type? What do they see in it? Why is it so superlatively pleasant to their eyes? Good design is always practical design. And what they see in a good type design is, partly, its excellent fitness to perform its work. It has a "heft" and balance in all of its parts just right for its size, as any good tool has. Your good chair has all of its parts made nicely to the right size to do exactly the work that the chair has to do, neither clumsy *How is one to assess and evaluate a type face in terms of its esthetic design? Why do the pace-ma-*

11 point on 12-point body

LINOTYPE

Times roman

[Reg. U. S. Pat. Off.]

TIMES ROMAN was developed in the search for a periodical face of distinction and legibility that would print well on all kinds and qualities of paper. The face has the added virtues of good color, material space economy, and the sturdy clarity of letter structure that has made it an excellent choice for either letterpress, offset, or gravure reproduction.

The design was developed after long and exhaustive trials under the direction of Stanley Morison and was cut simultaneously by both the English Linotype and Monotype companies as an interchangeable face.

Like many other good things, the war delayed the introduction of Times Roman to American printers. Linotype is glad to make this versatile series available now, initially in combination with its **Bold Face** in six useful sizes, from 5½ to 11 point. The *Italic* and SMALL CAPS series is ready also in five sizes, 7 to 11 point, with others in process. Long descenders are available for both series and will be supplied when desired.

THE ALPHABET:

A B C D E F G H I J K L M N O P Q R S T
U V W X Y Z 1 2 3 4 5 6 7 8 9 0
ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz

A B C D E F G H I J K L M N O P Q R S T
U V W X Y Z 1 2 3 4 5 6 7 8 9 0
abcdefghijklmnopqrstuvwxyz

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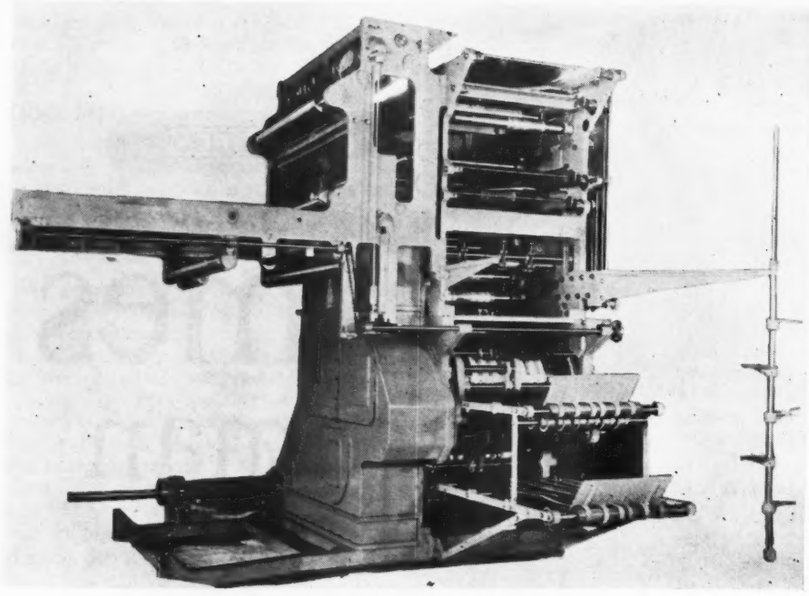


Courtesy of C. B. Cottrell & Sons Co

Figure 6—The Cottrell high-speed double two-color press and folder, showing the oil-tight gear guard which encloses the force-feed oil-lubricated cylinder gears.

The Inking Mechanism

Ink distribution may involve either a set of individual ink rollers for each unit, which take their ink supply from an adjacent fountain, or a patented pump system of ink distribution whereby the ink is pumped from a supply tank in individual streams (one for each column of print) to the ink distributing cylinders. This latter device eliminates the ink fountain with its accessory lifting rollers.

Such a pump is usually composed of thirty-two small pumps, much on the order of a mechanical force feed lubricator. These pumps work in unison, being directly connected to the distributing cylinder which in turn is driven from the plate cylinders it serves. Thus the amount of ink supplied is always in direct proportion to the speed of the press. Each individual pump is capable of independent adjustment.

Where an ink fountain is involved each unit is equipped with its individual set of accessory ink rollers. In such an arrangement the ductor or lifting roller alternately dips into the fountain, the ink being subsequently transferred to the distributor rollers which are arranged to travel from side to side across the distributing cylinder with relation to each other, as on a flat bed press. Even distribution and complete breaking up of the ink is maintained by cam mechanisms which develop a vibrating motion.

Handling of the Paper

The webs of paper which come in rolls approximately six feet long and about thirty-two inches in diameter are placed either below each press section or at the end of the press, according to the design. In operation, the paper passes in a continuous sheet between the plate and impression cylinders where it is printed first on one side and then on the other.

From the press sections the webs or sheets then pass over rollers to the folding mechanism and after being slit along the center travel over a "V"-shaped former where the first longitudinal fold is brought about. These folded sheets are then cut to page size by a revolving knife cylinder, after which they receive their second or half-page fold. They are then delivered onto an endless belt arrangement ready for distribution to the readers. The novel feature of this delivery is the device which pushes out every fiftieth paper a little in advance of the others to simplify counting.

The web press involves much the same mechanical details such as bearings, gearing, and cam devices, as the flat bed press, with the exception that there is no reciprocating motion involved. Therefore, air cushions, bed rollers and tracks are eliminated. The magazine electrotype web press embodies practically the same principles of operation as the newspaper press.

News Press Lubrication

Modern press builders have appreciated the importance of proper lubrication and today most of them equip all important bearings of their machines with self-oiling or anti-friction bearings, and guard all gears as effectively as possible not only for the safety of the operators but also to improve the retention of the gear lubricant.

The web press involves an intricate assembly of bearings gears and cams; all are so definitely dependent upon the others that any interference with operation would affect the production of the machine, as a whole. In other words, a stripped gear, a loose bearing, or a worn cam anywhere on the press might easily cause partial or complete shutdown, for such parts cannot usually be renewed or repaired during operation.

Ball and Roller Bearings Desirable

There has been a definite trend toward the use of ball and roller bearings in printing press construction. The printing cylinders as well as the folding and cutting cylinders are carried on roller bearings, and all other rotating parts such as pipe and compensating rollers or the rollers over which the web passes in going through the folders, are carried by ball bearings.

Ball or roller bearing lubrication will depend upon the nature of the housing. When it is oil tight, such a bearing can be adequately served by a light bodied straight mineral oil. Usually a viscosity in the neighborhood of 300 to 500 seconds Saybolt is advisable. Where it is not possible to use oil, however, a medium consistency grease will be found satisfactory. Grease can be more readily retained than oil so wherever the seals will not warrant use of the latter, a grease especially prepared for anti-friction bearings should be used. This should be a low-torque product to insure minimum drag, and resistant to oxidation to prevent gum formation.

Heavy Bearings May Be Self-Oiling

The bearings which carry the main, intermediate and folder driving shafts, generally are built extra heavy and equipped with either ball bearing or self-oiling pillow blocks below the bed plates.

There is but little possibility for wasted oil, in a self-oiling bearing and with the reservoir once charged, effective lubrication should be assured for extended periods. For such service a straight mineral lubricating oil having a viscosity of from 300 to 500 seconds Saybolt at 100 degrees Fahr., will generally meet the operating requirements.

On presses of older construction, plain and open bearings are in use on practically all pipe rollers and other shafting. In certain presses they are installed throughout the machine. Here the press oil recommended above for self-oiling bearings will be satisfactory.

Press Gears

The problem of press gear lubrication involves a condition wherein the grade of lubricant must be selected more or less subordinate to the mechanical construction of the press bearings and the installation of adequate gear guards. Wherever possible, a lubricant specifically designed for gearing will prove most adaptable by virtue of its economy and adhesive characteristics and its ability to resist squeezing out from between the teeth under the prevailing pressures.

The tendency of fluid oils to drip from plain or open bearings may often impair effective gear lubrication in the news press just as in the flat bed press, due to the possibility of such oils washing off the great lubricants which are usually applied. Guarding the gears is advantageous to a certain extent but guards will not always protect the gear teeth completely.

(Continued on Page 68)

for profitable coarse-screen work

THE making of coarse-screen halftone engravings or line cuts for reproduction on newsprint or similar types of paper stock is profitable business for many photoengraving shops.

Kodaline Ortho Stripping Film is specifically designed for this purpose. It is used in semi-automatic roll-film cameras, and has a highly uniform exposure factor coupled with superior stripping properties. Its photographic and physical properties permit standardized negative production on a routine basis. Its tough, strong paper base makes it ideal for commercial production.

Economical and dependable, Kodaline Ortho Stripping Film's photographic uniformity and physical superiority allow you to take full advantage of these profitable opportunities in your shop.

Place your order for Kodaline Ortho Stripping Film with your Kodak Graphic Arts dealer. He has this film available in a wide variety of roll sizes.

For further information, write to the Graphic Arts Sales Division, Eastman Kodak Company, Rochester 4, N. Y.

Graphic Arts Division

EASTMAN KODAK COMPANY, Rochester 4, N. Y.

Kodak

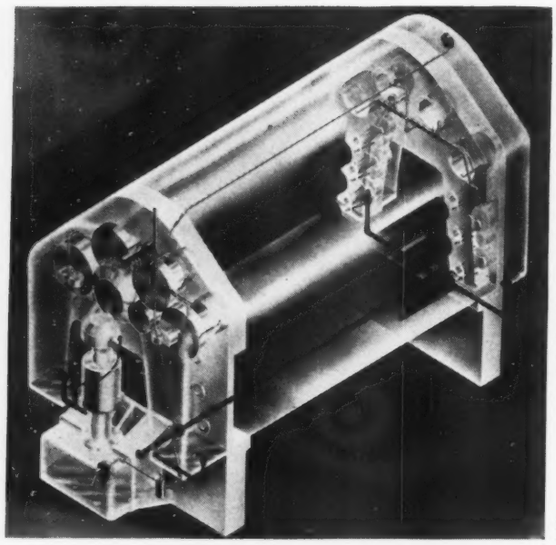


Figure 7 — Phantom isometric view of a drive gear unit on the new Hoe color-convertible newspaper press showing the force-feed lubricating system, pipe lines and circulation. Gearing is shown in block form for simplicity in tracing the oiling system. Oil is pumped from a reservoir in the main drive housing, through a filter, to the points of distribution at each end of the press unit as indicated.

Courtesy of
R. H. Hoe & Co., Inc.

(*Continued from Page 66*)

Heavier gears require a viscous heavy bodied gear lubricant. Many of such products are readily reduced by oil and rendered ineffective in a short time. Even certain soap thickened products such as greases suffer likewise.

LUBRICATING SYSTEMS

The adoption of automatic means of lubrication became very desirable as press speeds were increased. Both oiling and greasing devices are involved. Of the former, the mechanical force feed oiler, the centralized oiling systems and the wick oiler are most widely used. The spring type grease lubricator and pressure gun are preferred for grease.

Mechanical Force Feed Oiling

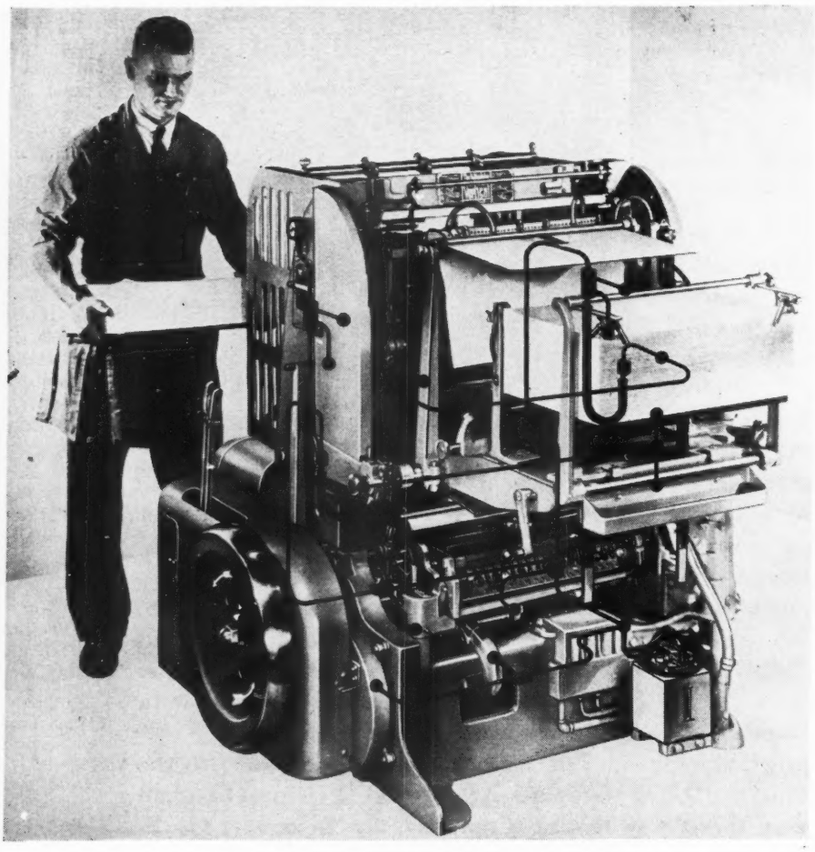
The mechanical force feed oiler delivers the desired amount of oil to meet the bearing requirements drop by drop under a certain amount of pressure.

This type of lubricator can be driven from the press itself through a link mechanism, belt connection or by means of an eccentric attachment to some rotating element and functions only when the press is in operation and then at a proportional speed, i.e. the higher the speed of operation the more oil will be delivered. The pumping capacity and rate of oil flow is, therefore, variable. Such a lubricator automatically starts or stops with the machine.

A mechanical force feed oiler is limited, however, in that the capacity is comparatively small commensurate with the machine requirements. As a result, such a device must be refilled with oil at frequent intervals, depending on the speed of operation, the number of oil feeds and the rate of oil delivery. This must be worked out in actual practice.

The typical mechanical force feed oiler consists of a reservoir of varying capacity ranging normally from one pint to two gallons. Within this reservoir, is the pumping element or block, which is generally of the piston or plunger type. Attached thereto is the operating ratchet, clutch or belt connection.

According to the service involved, quite a number of pumping units can be embodied in the one lubricator. Furthermore, this latter can be divided into two or more parts so that more than one grade of oil can be delivered by the same lubricator. The rate of pumping can be observed through a suitable gauge glass or sight feed device. This is located in the discharge line to enable observation of oil as the lubricator operates.



Courtesy of Miehle Printing Press & Mfg. Co.

Figure 8—The Bijur metered oiling system as applied to an improved Miehle V-50 vertical press. Note the oil reservoir, the meter units and the distributing lines to each of the 35 vital bearings.

Centralized Pressure Lubrication

Centralized pressure oiling systems maintain automatic lubrication from a central control, all moving parts being flushed and supplied automatically with oil from a central tank or reservoir. The unit is attached to the side of the press. It contains a suitable pumping mechanism which is driven from the press. Lubrication of all parts connected thereto thus becomes automatic. In centralized pressure lubrication, since the amount of oil fed is restricted to as nearly as possible the theoretical lubricating requirements of the respective bearings it can be classified as a "fresh oil" system.

Quite obviously some bearings will require more oil than others, accordingly it is necessary to provide for some arrangement of regulation or control of oil flow. This amounts to a metering of the oil in terms of drops. It can be brought about either by proper individual construction of the meter-units, which on such equipment are also known as control outlets, by use of a control device located at the base of the pump; or by the installation of suitable adjusting manifolds.

Centralized pressure lubrication is relatively fool-proof and an insurance that clean oil will be delivered to the respective bearings. It is essential however, that all parts be of rigid construction and capable of withstanding jars, shocks, and

(*Continued on Page 77*)

What happens to a roller to make it **Ideal?**

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View in one section of the platemaking plant of the Chase Bag Co.'s St. Louis plant. All designs for customers' bags are created in the centralized art department and the plates are made "on the spot."

In the foreground is a section of the composing room. What appear to be type cases in reality are cases containing specially made quads and spaces suitable for bag composition. Just back of the quad and space cases, the two men are hand-engraving metal tint blocks and either engrave a brand design completely by hand or cut the color plates for the photo-engraved key plates.

Just back of the hand-engravers' section is the proving department.

In the screened enclosure are located a Royle and a Wesel flat routing machine.

Designs *for cotton and burlap bags have grown up — Colorful original art, photo-engraving and rubber plates involved—Centralized art and platemaking department maintained by Chase Bag Co. in St. Louis*

ONE of the interesting operations in the Graphic Arts industries is that carried on by the Chase Bag Co., St. Louis, Mo. Principally, the Chase Bag Co. and its branches, furnishes cotton, burlap and paper bags to many manufacturers throughout the country. The company has just completed three modern factory buildings in St. Louis, Minneapolis, Minn. and Crossett, Ark. There are also 14 branch printing plants in various parts of the country.

The interest of the printing industry in the modern Chase Bag Co. building in St. Louis is that during the first part of the year a central art department was opened for first public inspection. For a number of years, Chase has worked toward the centralization of all the art work necessary to serve the company's customers to best advantage. When plans for a new and modern bag plant were drawn up at St. Louis, it was decided that the centralizing of the art and plate work would be exploited to its fullest extent.

In years past, when bag users were satisfied with only their product name stenciled or printed on bags carrying their products, small art departments were maintained in several Chase factories to serve the needs of each local territory. Later, however, millers, feed manufacturers, sugar refiners and other bag users in various industries began to realize the intrinsic value of a colorful, well-designed brand name printed on each container.

Anticipating future demands for advertising art on bags, Chase drew upon branch talent and hired artists, designers, engravers and ink experts to form a centrally located art department in St. Louis.

So the story goes, Chase's management didn't have to look far to find a capable manager for the new art headquarters. Requirements for the job were that the manager must be a capable artist and designer, must have a knowledge of engraving, platemaking and printing, must know the bag business from a manufacturing standpoint and a knowledge of the company's sales problems.

Executives found the man—Burnam R. Jones—already in the organization. Before joining the company in 1924, Mr. Jones had been a free lance artist. He became sales manager and later manager for one of the company's branches.

While completing his artist staff, Mr. Jones searched for a qualified chemist who could assist him in the many technical aspects concerned with the 400 different types of inks required. Harold

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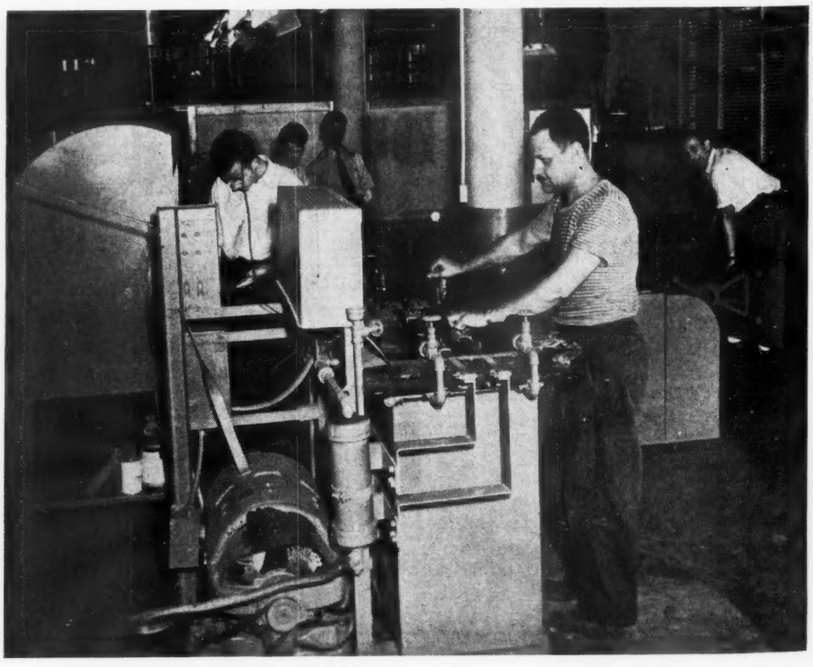

View in photo-engraving department, Chase Bag Co., St. Louis, where all plates (black and color) are made for various company branches. At right is a camera; in foreground is a Johnstone electric etching machine with 10 h.p. generator. All etching in this plant is done electrically. At left is dusting cabinet in which the usual dragon's blood operations are done. In the center of the room is a square table for cooling plates.

AT LEAST four jobs out of every five in any commercial shop are logically Kelly jobs . . . 4-color process, heavy solids, or fine-line work; elaborate booklets or routine office forms; long or short runs or jobs with many press changes. An ATF KELLY is the work horse of the modern printing plant. Ask your ATF Salesman for samples of actual runs, or write to us.

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ATF KELLY No. 1
handles sheet sizes from
8½x11 to 22x28

ATF C-KELLY
handles sheet sizes from
7x10 to 17½x22½

ANPA Conference

(Continued from Page 60)

openings leading into the mailing room were just large enough to let the papers on the conveyors pass through.

Are there any short cuts in running color that will reduce costs? was then asked. To this question, none of the executives had an answer. Most likely they themselves were all seeking the answer to the same question.

What experience have executives had with glass-beaded draw sheets? was asked.

Earl Weiskittel of the Youngstown (O.) *Vindicator*, said he uses them on second impression cylinders and has found that they improve the printing considerably.

John W. Parks (Chicago *Tribune*) said the *Tribune* had used them but it had been his experience they didn't last long enough to warrant their cost.

Richard C. Carberry of the Montreal (Can.) *Gazette*, asked about Spherekote blankets.

E. Curtis White, Pressroom Supt., of the Indianapolis (Ind.) *Star*, related his experience with these blankets. He said that at first the results were not satisfactory but he attributed this to the fact that the blankets at that time were not fully improved. Since then, he added, the blankets have been materially improved and that now he is finding them worth while. He said they have runs of 200,000 printed at 42,000 copies per hr.

Ralph R. Cranmer, Williamsport (Pa.) *Grit*, related that in his plant two had been used on one unit but some trouble was experienced with the beads falling off. He added, however, that he was not through trying them. He said he had bought some more of them and intended experimenting further.

Paul Brannan of the Cleveland *Press*, reported six of the blankets had been installed two each on three different presses, using them on second impressions. He said they had gotten 10 million impressions from the blankets which still showed very little wear.

G. F. McWhorter of the Nashville (Tenn.) *Banner & Tennessean*, raised the objection to these blankets that they do not stretch with the result that if they are pulled too tight in installing they break. However, he did add that the use of them does improve the impression.

Julian J. Eberle of the Milwaukee

(*Continued on Page 74*)

Conference Dates (*with organization names and principal officers*)

American Photo-Engravers Association—Hotel Statler, Cleveland, Oct. 7, 8 and 9. Frank J. Schreiber, Commissioner, 166 W. Van Buren St., Chicago 4, Ill.

ANPA Mechanical Conference — 1949 conference to be held in Chicago, date and place to be determined later. J. L. Stackhouse, Chairman, Easton (Pa.) *Express;* Walter E. Wines, Manager, ANPA Mechanical Dept., 370 Lexington Ave., New York 17, N. Y.

Great Lakes Newspaper Mechanical Conference—Gibson Hotel, Cincinnati, January 16, 17, 18, 1949. President C. M. Kirk, Stereotype Supt., Detroit *News*; Secretary Al P. Oberg, Composing Room Supt., Flint (Mich.) *Journal*.

Illinois Newspaper Mechanical Conference — Faust Hotel, Rockford, Ill., Saturday and Sunday, September 25 and 26, 1948. President, Earl Anderson, Supt., Rockford Consolidated Newspapers, Rockford, Ill. Secretary, Howard Colton, *Daily Pantagraph*, Bloomington, Ill.

International Association of Printing House Craftsmen—Hotel Cleveland, Cleveland, August 8, 9, 10, 11, 1948. President, A. Gordon Ruiter, Supt., Forbes Lithograph Mfg. Co., P. O. Box 513, Boston, Mass. Secretary, Pearl E. Oldt, 18 East Fourth St., Cincinnati 2, Ohio.

International Typographic Composition Association—Hotel Nicollet, Minneapolis, Minn., September 16, 17, 18, 1948. Frank M. Sherman, Executive-Secretary, 1015 Chestnut St., Philadelphia 7, Pa.

Iowa Daily Newspaper Mechanical Conference— 1949 conference will be held in Mason City, Ia. Hotel and dates to be announced later. President, Ken I. Waughtal, Kayenay Engraving Co., Mason City, Ia.; Secretary, Paul F. Kamler, Mechanical Supt., Clinto (Ia.) *Herald*.

Kansas Newspaper Mechanical Conference — Hotel Kansan, Topeka, Kas., Saturday and Sunday, October 2 and 3. Vern Williams, President, c/o Topeka Newspaper Printing Co., Topeka, Kas.

Lithographers National Association— W. Floyd Maxwell, Executive Director, 420 Lexington Ave., New York 17, N. Y.

Missouri Newspaper Mechanical Conference — Tiger Hotel, Columbia, Mo., September 11 and 12, 1948. President Beryl A. Troutman, *Courier-Post*, Hannibal, Mo., Secretary-Treasurer O. K. Hammitt, *Monitor-Index*, Moberly, Mo.

National Association of Litho Clubs — Washington, D. C., April 29-30, 1949. President, Albert Tucker, Sauls Lithograph Co., Washington, D. C.; Secretary William J. Stevens, 1776 Broadway, New York 19, N. Y.

National Association of Photo Lithographers — Netherland-Plaza Hotel, Cincinnati, Ohio, Sept. 15, 16, 17, 18, 1948. Walter Soderstrom, Executive Secretary, 1776 Broadway, New York 19, N. Y.

National Graphic Arts Education Association—Byron G. Culver, President; Fred J. Hartman, Educational Director, 719 Fifteenth St., N. W., Washington 5, D. C.

National Graphic Arts Exposition—International Amphitheatre, Chicago, September 24 to October 7, 1950. National Graphic Arts Exposition, Inc., A. E. Giegengack, President. Fred W. Hoch, Secretary, 461 Eighth Ave., New York 1, N. Y.

National Printing Equipment Association, Inc. — Edgewater Beach Hotel, Chicago, Ill., October 20, 21 and 23, 1948. James E. Bennet, Secretary, 140 Nassau St., New York 7, N. Y.

New England Mechanical Conference — Hotel Statler, Boston, Oct. 23 and 24, 1948. President, Wm. H. Porter, Mech. Supt., New Haven (Conn.) *Register*. Secretary-Treasurer, Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day*.

New Jersey Press Association Mechanical Conference—1948 Conference to have been held in Atlantic City, N. J. in June has been cancelled because of inability to secure hotel reservations. President Neal E. Dyer, Mechanical Supt., Camden (N. J.) *Courier-Post*.

Northwest Mechanical Conference — Hotel Radisson, Minneapolis, Minn., February 12, 13, 14, 1949. President, Chas. R. McGuire, Asst. Mechanical Supt., Minneapolis (Minn.) *Star* and *Tribune;* Secretary-Treasurer, Henry Magnus, Machinist, Minneapolis (Minn.) *Daily Times*.

Pacific Mechanical Conference — Roosevelt Hotel, Hollywood, Calif., May 13, 14, 15, 1949. President, Harold Winn, Hollywood *Citizen-News;* Secretary for the North, Edw. N. Conley, color press foreman, San Francisco *Chronicle;* Secretary for the South, Fred J. Moyer, Los Angeles, *Daily News*.

Pacific Society of Printing House Craftsmen — Blair Lord, Secretary-Treasurer, 3650 Fairmount Blvd., Riverside, Calif.

PNPA Mechanical Conference — William N. Hardy. Manager, PNPA, 209-213 Telegraph Bldg., Harrisburg, Penna. Chairman Mechanical Committee, E. O. Davies, Mechanical Supt., Harrisburg (Pa.) *Patriot* and *Evening News*.

Printing Industry of America—Edgewater Beach Hotel, Wed. to Sat. inclusive, Oct. 20-23; James R. Brackett, General Manager, 719 Fifteenth St., N.W., Washington, D. C. 1949 PIA Convention — Hotel Biltmore, Los Angeles, Nov. 14-17, 1949.

SNPA (Eastern Div.) Mechanical Conference—Walter C. Johnson, Manager SNPA, P. O. Box 1569, Chattanooga 1, Tenn. Chairman Executive Committee, I. J. Gardner, jr., Composing Room Supt., Chattanooga (Tenn.) *Times*.

SNPA (Western Division) Mechanical Conference—Secretary, C. W. Tabb, 723 Texas Bank Bldg., Dallas, Tex.

Southwestern Graphic Arts Conference—E. J. Deubner, Executive Secretary, 130 No. Volutsia Ave., Wichita 8, Kan.

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THE PRINTERS' and LITHOGRAPHERS'
International Relief Committee
P. O. Box 1422—Cincinnati, Ohio
Mr. Lee Augustine, *Chairman*

ANPA Conference

(Continued from Page 72)

Journal, like other executives, reported that in the beginning he had trouble with them but that since they have been further perfected the trouble has disappeared. He cited the use of these blankets for 13 months with every evidence that they are good for many more months use.

Auburn Taylor, Pressroom Supt. of the Charleston (W.Va.) *Gazette*, asked if the glass-beaded blankets walked on the cylinders. Several gave him the answer in the shortest possible way—no.

The question of high shrinkage mats was again brought up, this time with the question: *What halftone screen should one use with high shrinkage mats to get proper printing qualities?* Charles M. Kirk of the Detroit *News*, gave as his experience that you can do as well with 65 screen with high shrinkage mats as with low shrinking mats.

What can be done to prevent blankets shifting on cylinders? Edward W. Sailer of the Wheeling (W.Va.) *News-Register*, reported that he had solved the shifting problem by punching the blanket ⅛ in. lower on the outside than on the inside. Earl Weiskittel reported that shifting would be avoided if the blankets were not overlapped. Paul Brannan, Cleveland *Press*, said that shifting could be remedied if not entirely prevented by narrowing the distance between the edge of the blanket and the first hole. He also added that another remedy was to not indent the first hole.

Lens-O-Matic Control

At the conclusion of this discussion the meeting was turned over to Maurice A. Hagan of the Philadelphia *Inquirer*, who took the chair.

K. R. Burchard of American Type Founders, was then introduced as the next speaker on the subject of the *Lens-O-Matic—a New Halftone Exposure Control*. The speaker stressed its value as an eliminator of errors that were likely to be present when exposures were made by the conventional methods used in plants. He had with him one of the attachments and used it to demonstrate its action and working operation.

Following this talk and demonstration, Maurice A. Hagan reported that he uses one of these attachments and gets smoother middletones in his halftones than he was ever able to get in any other way previously.

Black and One Color Production

E. N. Camus, Manager of the Service Engraving Co. of Pittsburgh, Pa. was unable to be present to deliver his talk on *One-Color and Black Engravings*. In his place, Paul O. Bowers of the Pittsburgh *Sun-Telegraph*, appeared and gave a talk on the same subject, using layouts from the art department of the *Sun-Telegraph* for illustrations.

"This one color and black process," said Mr. Bowers, "is very largely an art department proposition. The whole thing is prepared in this department. First, we take the photograph or drawing which we intend to use and we enlarge it as much as possible. It is then pasted on drawing board and register marks put all around it. Any retouching that is to be done is then executed.

"A sheet of transparent overlay is then fastened to the drawing board at one side so that it can be flipped back when desired. With this transparent overlay in position over the enlarged photograph or drawing as the case may be, it is determined what parts are to be done in the color. Those parts desired in color are painted in on the overlay sheet which later becomes the copy for shooting the color plate. The artist making this layout must determine what portions of the finished picture he wants in black, what parts in the color without the black and what parts he wants with the combination of the color and the black. The overlay for the color can be done in black or the color desired can be used. That is entirely up to the artist and has no effect on the finished result."

The speaker then told how with the overlay completed, the layout is sent to the engraving room where it is mounted on the board. The overlay is flipped back and the retouched photograph or drawing is shot for the black and white cut. The overlay is then flipped back over the drawing or photograph, a piece of white opaque paper inserted between the overlay and the photograph so as to prevent the showing through of the photograph and the color plate is shot. There is no time lost between the shooting of the two plates except the second required to flip back the overlay and insert the sheet of white opaque paper between it and the photograph.

Fairchild Engraver

J. L. Stackhouse of the Easton (Pa.) *Express*, was introduced as the next speaker, his subject being *Experience with the Fairchild Engraver*.

He told of the initial trials of the engraver which resulted in poor cuts because of the poor screening. Upon investigation it was found that the stylus instead of burning the mat was melting it with the resulting poor screen. He then told of the reduction in speed of the machine from 350 cy. per sec. to 120 cy. per sec. and the disappearance of this fault. At this reduced speed it was reported the stylus completely burned out the material so that an excellent halftone cut was obtained.

Mr. Stackhouse reported that previously his plant was using these engravings by fastening them down to the base with tape but that now they are just laid on the base but not fastened down.

A. J. Powers, jr., of the Chemco Photoproducts Co. was the last speaker of the morning session, his subject being *The New Cold Grid Printer*. He described the many advantages of this printer over the old arc printer, such as using less space, being less costly to maintain and operate, producing an evenly lighted plate where even the corners are lighted equally as well as the center.

AFTERNOON SESSION WEDNESDAY, JULY 21

THE final session of the conference opened on Wednesday afternoon, July 21 with John W. Park of the Chicago *Tribune* in the chair.

C. H. Ruth, jr. of the Washington, D. C. *Star* was the first speaker of the session, his subject being *The Advertising Copy Problem*.

In his preliminary remarks he sketched the result of present-day conditions as they affect the composing room in setting up and proofing ad copy and then showed how some of the service features that had been built up through the years by the advertising department of his newspaper had to be changed if the conditions that prevail today were to be even half-way met.

Controlling Ad Copy Delivery and Production

Among the changes that were put into effect were that all ad copy together with mats, cuts and other parts of the same piece of copy must be turned in as a unit complete before the advertising department would pass the copy on to the composing room; no proofs are sent out more than two days before the ad is scheduled to appear; the dead line for receiving copy was pushed back from 6 o'clock at night to noon with proofs promised by 10 o'clock the next day; if ad copy is all ready for the camera to shoot, engravings would be furnished without cost, but otherwise a charge would be made for engravings; cuts ordered but not used were charged for; limiting the number of proofs to two.

These as well as other minor changes in the handling of ad copy reduced the previous bottleneck that had caused the engraving department to be almost idle part of the shift and rushed at other times, so that overtime was often necessary to get out the necessary engravings.

Mr. Ruth jr., displayed a series of stickers that his paper developed for use with ad copy. The stickers come in seven colors, a different color for every day of the week. The stickers for each day are printed in two types. One is a regular sticker while the other is a reverse printed job giving a colored background with white lettering. The reverse stickers are for ads that are to be run while the other sticker is used on copy to indicate day proof is promised. It was reported that this series of colored stickers with a different color for every day of the week had greatly facilitated the handling of ad copy and proofs.

B. F. Garrity, Production Manager of the Gannett Newspapers of Rochester, N. Y., was introduced as substitute chairman.

Mr. Garrity then presented Production Manager Charles M. Wolf of the Pittsburgh *Press*, as the next speaker who

(Continued on Page 82)

Patents For The GRAPHIC ARTS FIELD

Covering patents issued June 1, June 8 and June 15.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issuing each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Binding, Cutting, Perforating

During the three weeks covered by this report, no patents have been issued for this heading.

Composing Room Equipment

During the three weeks covered by this report, no patents have been issued for this heading.

Feeding, Folding and Delivery

2,442,839. ATTACHMENT FOR SHEET FEEDING MECHANISMS is for incorporation, or association with, printing presses, folding machines, or the like, for justifying and accurately positioning individual sheets preparatory to a printing or folding operation. The attachment is shown, for example, as incorporated in the side guide mechanism of the well known "Miehle" vertical printing press. The attachment comprises a cantilever arm provided, adjacent to one end, with a transverse socket to embrace one side of a rod or bar which may be an element of the feeding or side guide mechanism of a printing press, folding machine, or the like. This is operated to move the cantilever arm toward and from the sheets to be justified in timed relation with the movements of the sheets successively into position to be operated upon. The free end of the arm is made with a lateral tubular extension, the interior of which provides a cylindrical chamber whose axis is disposed at right angles to the rod or bar. The lower portion of this chamber is constricted in diameter to provide an annular shoulder. Within the lower portion of the chamber is slidably mounted an exteriorly cylindrical stem holder in the form of a plunger whose lower end portion is made tubular to receive within it one end of a straight rubber stem which may be secured therein by friction or cement. The upper or inner end of the plunger is made with a head which provides the plunger with an annular shoulder that normally rests upon the first mentioned shoulder. Chamber is interiorly threaded at its upper end to receive within it an adjustable abutment screw. A check nut holds the screw in its adjusted position. A light coiled spring is provided within the chamber. Spring bears at its one end against the abutment screw and at its opposite end against the inner end of the plunger. This spring serves to yieldingly hold the plunger normally at the limit of its outward movement with its head against the first mentioned shoulder. Normal pressure of the spring upon the plunger may be varied by adjustment of the abutment screw to suit the weight and thickness of the sheets being handled. Stem is made of very elastic and pliable gum rubber so that its resistance to lateral movement, or bending, is very slight while its resistance to endwise compression is very substantial. Invented by Carl E. Carlson, Boston, Mass. Unassigned. Application January 15, 1946. 2 claims.

Miscellaneous

2,442,407. APPARATUS FOR DEHYDRATING AND SHRINKING PRINTING MATS for cylinder printing presses to predetermined measurements is disclosed. The drier housing is open at the bottom and louvres are spaced around the housing sides. Upper and lower motor driven conveyors made of screen-like belting travel from one end of the housing to the other. Mats to be dried are positioned in the housing between the belts at one end and are automatically discharged at the opposite end to fall onto a delivery magazine. Banks of spaced infra-red reflector lamps are placed about six inches above and below the mats so that their rays are projected through the screen belting onto both sides of the mats. By con-

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trolling the speed of the belts and mats, it is claimed that the mats are shrunk three-eights of an inch and only eight per cent of the moisture is removed as the mats pass through the housing. Invented by William E. Gibbons and George Scharton, Chicago, Ill. Assigned to Illinois Publishing and Printing Co., Chicago, Ill. Application Sept. 27, 1946. 3 claims.

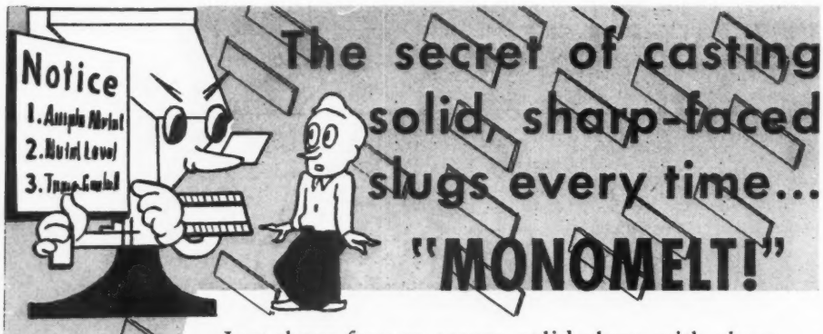
Plate Making

During the three weeks covered by this report, no patents have been issued for this heading.

Printing Inks and Related Chemicals

2,442,345. AZO COMPOUNDS of the invention find use for the coloring of such materials as cellulose, wool, silk and nylon by printing, dyeing, or stencilling methods. Both sulfonated and non-sulfonated compounds are covered by the invention. The compounds can be prepared by diazotizing an arylamino compound of the benzene series, an arylamino compound of the naphthalene series, or an aminoazobenzene and coupling the diazonium compounds obtained with a trifluoromethyl-1,2,3,4-tetrahydroquinoline or a trifluoromethylbenzomorpholine coupling component. The diazotation and coupling reactions in the invention are well known. Compounds may also be used in lacquers. Invented by Joseph B. Dickey, Rochester, N. Y., and James G. McNally, Oak Ridge, Tenn. Assigned to Eastman Kodak Co., Rochested, N. Y. Application June 23, 1945. 10 claims.

2,442,747. A PRODUCT FOR USE IN HIGH-SPEED THERMOSETTING INKS is disclosed. The process of preparing this hard, tough, resinous product comprises reacting one mole of a carbamide from the group consisting of urea, thiourea, and guanidine, 1.5 to 3.0 moles of an aldehyde from the group consisting of formaldehyde, acetaldehyde, benzaldehyde, and furfuraldehyde, and 1.5 to 3.0 moles of an unsaturated acylic alcohol from the group consisting ol allyl alcohol and methallyl alcohol by condensing under the influence of heat and in the presence of an acidic catalyst until resinification but not gelation takes place. Thereafter, while an acidic catalyst is present, the resulting reaction product is polymerized by heating in the presence of peroxidic catalyst such as benzoyl peroxide. Products are also useful in surface-coating for metal, wood, etc. Invented by Robert W. Auten, Jenkintown, Pa., and William L. Evers, Moorestown, N. J. Assigned to The Resinous Products & Chemical Co., Philadelphia, Pa. Application May 2, 1944. 4 claims.



Just three factors assure solid slugs with sharp faces every time from your linecasting machine, if you keep it clean and in good condition. All three are guaranteed by a MONOMELT Single Melting Feeder.

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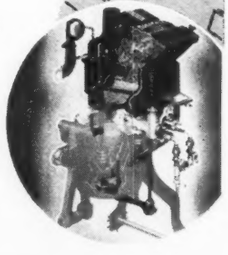

THE ***MONOMELT CO., Inc.***

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Printing Presses and Equipment

2,442,407. APPARATUS FOR DEHYDRATING AND SHRINKING PRINTING MATS. See description of this invention under "Miscellaneous" heading.

2,442,588. INKING AND PRINTING ROLLS of good durability may be prepared from plastic compositions of the invention. The process for making a vulcanizable, flexible rubbery product comprises polymerizing with a peroxide catalyst such as benzoyl or acetyl benzoyl a mixture consisting of, by weight, 30 parts liquid partially polymerized benzyl acrylate, 47 parts ethyl acrylate, 37 parts acrylonitrile, and 10 parts butadiene. Channel black, zinc oxide, celite, etc., may be used as fillers and modifiers; free fatty acids such as stearic and lauric acids may be used as lubricants, and the phenyl benzyl esters of polycarboxylic acid may be used as plasticizers. The plasticized and unplasticized polymerization products in combination with other natural or synthetic resins have wide application. Invented by Gaetano F. D'Alelio, Pittsfield, Mass. Assigned to General Electric Co., Schenectady, N. Y. Application Sept. 17, 1942. 1 claim.

2,442,700 INK FOUNTAIN FOR PRINTING PRESSES comprises a fountain roll, a doctor blade and a fountain divider. The latter includes an adjustable divider bar, two side plates and an intermediate plate. The intermediate plate is adjustably suspended from the divider bar and has a pressure chamber and a passage leading thereto. There is a flowable mass, which may be in the form of small balls or a liquid filler, in the chamber and passage. A liner extends along the front, bottom and rear edges of the intermediate plate closing the bottom and one side of the chamber. The side plates are secured to the intermediate plate and overlap the liner. Pressure is exerted on the

balls or filler through the passage leading into the chamber to insure a liquid tight joint with the surface contacted thereby. A lubricant may be included in with the balls. Invented by Hans J. Luehrs, Westerly, R. I. Assigned to C. B. Cottrell & Sons Co., Westerly, R. I. Application October 18, 1944. 20 claims.

Printing Machinery Lubrication

(Continued from Page 68)

temperature fluctuations; for while piping, etc., is guarded wherever possible, the chance of contact with external materials still remains.

Another advantage is the exclusion of dust and dirt. However, to further insure that oil is fed clean certain central oil reservoirs are equipped with suitable filtering media, such as a felt pad, which is claimed to effectively remove any foreign matter that may have entered the oil in the course of storage or handling prior to usage.

Oiling by Wick Feed

The wick feed oiler as applied to the printing press, is an individual means of lubrication. In other words, one or more such oilers must be used to serve each bearing, although they can all be gathered together at one point of location on the side of the press, each being connected to its respective bearing or other wearing element by suitable tubing.

The wick feed oiler is automatic, in that it will continue to feed oil just as long as there is any contained in the oil cap. On the other hand, where the press is to be intermittently shut down, this may develop into waste, for oil will be fed whether the machine is running or not. This can be overcome by locating a suitable shut-off cock in the oil line.

The rate of oil flow in a wick feed oiler can be regulated by the number of strands contained in the wick. These can be varied according to the bearing requirements, the size and speed of rotation.

Circulating Systems

Modern press construction also provides for enclosed type housings with circulating lubricating systems. In systems of this kind the oil is contained in the main reservoir and is pumped by means of a rotary pump to all parts to be lubricated within the enclosed housings. The oil is returned by gravity through a return line to the main supply tank. A filter is introduced in the supply line thus insuring that only clean oil reaches the parts to be lubricated. Although this type of circulating system with enclosed housings adds to the cost of press construction, it is very economical in operation as it reduces oil consumption and wear on press parts to a minimum.

Pressure Grease Lubrication

When it is desired to use a heavier lubricant than oil, the pressure grease gun, compression cup or spring type lubricator can be used for press bearings. The typical spring type of lubricator involves a combination of the pressure grease gun plus the spring type cup. By using a spring of pre-determined tension in connection with a discharge orifice of suitable size, flow of grease therefrom can be very accurately controlled. Furthermore, this flow can be noted by the indicator with which such lubricators are usually equipped.

It is a simple matter to fill such a cup, requiring only attachment of the pressure gun to the fitting located in the base of the cup. It is not necessary to remove the cover, consequently there is more positive assurance that the grease charge will not become contaminated through possible entry of dust or dirt. The next step is to charge grease into the cup until the indicator rises to its full height to show that the cup has been completely filled.

Pressure grease guns are operated by compressed air, electric power, or simply hand or foot power, according to the type of gun and the pressure desired. Where a relatively simple hand pressure grease gun is used, the impression may be gained that this should be classified with the hand pressure or screw-down type of cup. Hand pressure however, as applied to a grease gun does not react directly on the bearing; it is only the means used for forcing out the grease.

LUBRICATION PROCEDURE

Press lubrication must be attended to regularly if best results are to be obtained. The flat bed press being very

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We use IMPERIAL ZINC WITH REDIFACE"

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Imperial ZINC

often a hand lubricated machine exemplified this fact. Where there is no lubricant reservoir of any extensive capacity nstalled, the operator has a decided responsibility. The care and regularity with which the press mechanisms are lubricated will be a measure of the operating efficiency, the power consumed and rate of production.

The function of each part requiring lubrication must always be remembered. It is not enough to simply squirt oil into every oil hole in sight or to sluice the gears or bearings. This will only waste oil and cause both the machine and floor

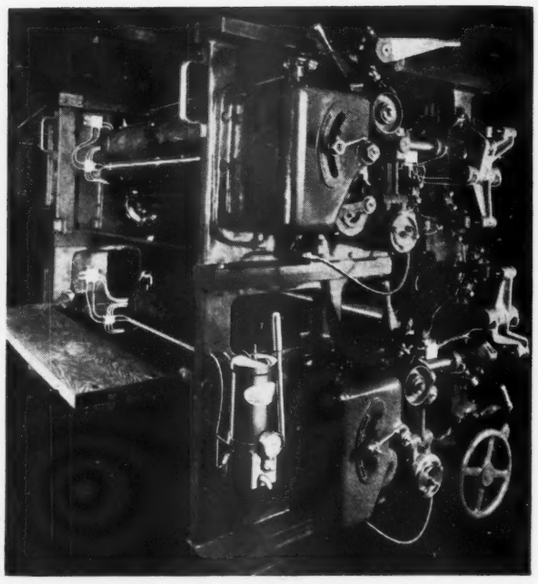


Figure 10—Showing a Farval Manual Dualine greasing system on a Goss "Headliner" color press. Note pump in foreground and leads to various points of distribution.

Courtesy of
The Farval Corporation

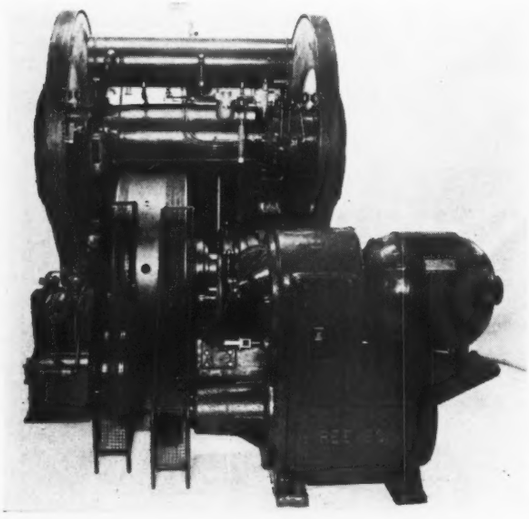
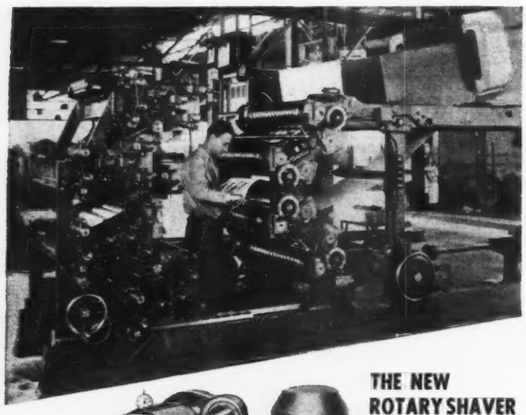
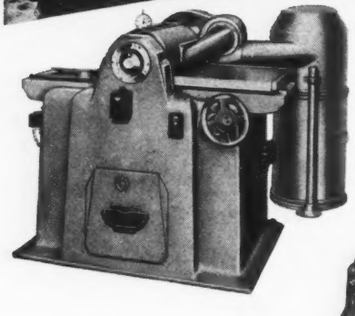


Figure 9—Rear view of a Thomson - National press showing the Reeves drive, compressor and features of lubrication. The eye level gauge shows the amount of oil in the main shaft bearing at all times. This machine is operated by an air cylinder, the packings in which are lubricated by an air line lubricator as shown.

Courtesy of
Thomson-National Press Co.





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THE NEW PLATE REGISTERING MACHINE

that registers plates swiftly, accurately, safely for little money. Send for free illustrated folder.

5 Simple Operations

that conspicuously reduce 4 to 6 color printing costs.

1. To make ready, unlock the ink carriage, turn hand wheel, step in, register plates, adjust ink roller or raise tympan sheet.
2. Lightning speed on all four color printing—625 to more than a thousand feet a minute, guaranteeing 100% hairline register.
3. Press button speed control. Full view ink fountains, with micrometer control, adjusted while the press is in motion.
4. Perfect hydraulic automatic rewind or sheet delivery.
5. Long, steady runs on glassine paper or stock up to 240 pound basis at unbelievably low maintenance costs.

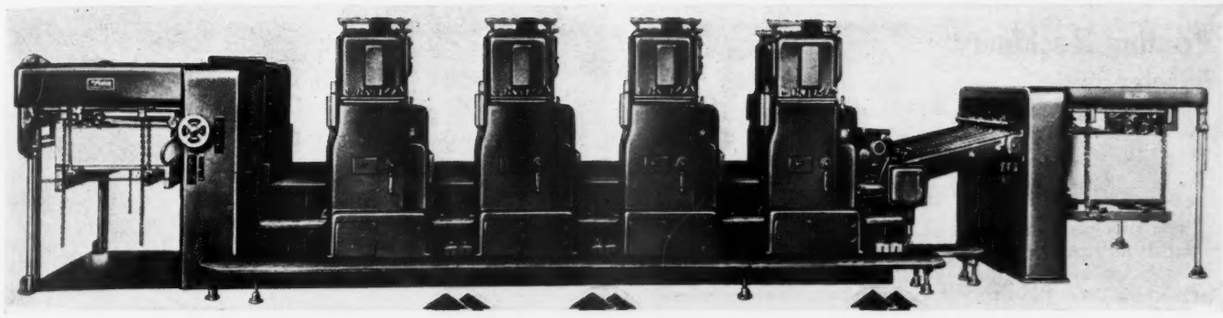
SEND FOR FREE ILLUSTRATED BOOKLET

HESS & BARKER

Printing Press & Equipment Manufacturers

212-22 S. Darien St., Philadelphia 7, Pa.

Telephone PEnnypacker 5-4070



Courtesy of Miehle Printing Press & Mfg. Co

Figure 11—Side view of a Miehle 4-color offset press. Arrows at base indicate location of the six Bijur lubricators which serve the bearings on the feeder, printing and delivery units.

to become an oily mess and endanger the safety of the operators. It is far better to recognize that every pair of surfaces in contact with each other possess a certain relation in their motion with respect to each other and therefore require a certain definite amount of lubrication at the points of contact to reduce solid friction as much as possible. Experience will be the best guide as to how much oil or grease to apply, and how often.

Press Design Is a Factor

Obviously, design and age of the press is a factor. A new press may require somewhat more oil and greater frequency in its application than one which has been in operation long enough to work all its mechanisms into a "running fit."

Ink rollers also must be studied. Sometimes difficulty may be encountered in press operation by such rollers bursting at the ends especially when running short forms on a flat bed press. Here considerable friction may develop between the ends of the rollers and the dry surface of the ink plate. It can be corrected by coating the plate beyond the inking line with a light or medium bodied grease in order to insure against excessive friction.

Starting Procedure

In flat bed press operation, the practice of turning over presses by hand (where practicable) a few times, is favored before throwing on the power to be sure that the proper "feel" at the wheel is present.

A competent press operator can develop a sense of judgment in regard to this "feel" which is helpful in checking up on lubrication. In fact quite as essential as knowledge of all parts requiring lubrication is the ability to judge whether these parts are functioning with a minimum of friction.

Cleaning

When the press is used intermittently, it will be advisable to rinse out bearings, oil holes and waste pad reservoirs with kerosene about once a month especially if dirt or dust is prevalent in the pressroom or when certain grades of paper are used which develop "fluff." This must be removed, otherwise obstructions will accumulate to interfere with delivery of the oil to the contact parts.

(*Continued on Page 80*)

it takes time

Burgess Chrome Mats weren't developed overnight. Years of research and experience were necessary to perfect them. Today, stereotypers depend upon Burgess Mats for really faithful reproduction, choose them for consistent behavior.

It takes time to *produce* the perfect mat, too. From raw materials to finished product, in every step of manufacture, Burgess takes time to check, test, and recheck. That's why each Burgess mat is of uniform high quality—can be counted upon to do your toughest stereotyping job.

BURGESS Chrome MATS

BURGESS CELLULOSE COMPANY

Manufacturers and Distributors of Burgess Chrome and Tone-Tex Mats

FREEPORT, ILLINOIS

Printing Machinery Lubrication

(Continued from Page 79)

CONCLUSION

The modern printing plant or press room is an example of mass production at work to a remarkable degree. The procedure from the linotype or monotype machine, to the assembly stage of the finished pages typifies uncanny accuracy coupled with speeds which would have amazed even the far-seeing Benjamin Franklin, were he able to enter a modern shop today. Speed and register, the primary requirements in modern printing are only attainable when every part of the modern press functions perfectly in conjunction with its companion part. The designer dictates the maximum speed when he lays out the details of the press. Lubrication contributes to the continued attainment of this desired speed by keeping the parts free from wear. Register—that so important detail when printing two or more colors—also is influenced by lubrication, i.e., when wear is prevented press parts operate so that there is minimum variation in shaft and bearing alignment and the least possible change in gear tooth meshing.

The thought which has been given to controlled lubrication is evidence of the respect the printer of today has for this most important maintenance item.

Now "TYPE" Your Line-Cast Machine Composition

KELLOGG
Type-O-Writer KEYBOARD*
REG. U. S. PAT. OFF.

You've read of—and heard of—this Keyboard which has proven itself as standard equipment, and as service to publishers and printers all over the country. Here is *why* it is of service, why it should be standard equipment for you:

The Kellogg Type-O-Writer makes line-cast machine composition as easy as typewriting. It employs the *standard typewriter* key arrangement. It reduces the number of keys the operator must use from 90 to 44. Not only that, its more efficient key arrangement gives complete freedom and ease in the use of *both* hands across the entire keyboard—alphabet, figures and symbols, lower case, caps and small caps.

The Kellogg Type-O-Writer mounts on any line casting machine in less than 60 seconds. Only two slight adjustments are made when *initially installing the keyboard.* After that, it may be mounted and removed instantly. Portable, light-weight, the Type-O-Writer operates on standard AC current, or DC with an inverter. Why not write *today* for full information?

*FULLY COVERED BY U. S. PATENTS

KELLOGG SWITCHBOARD & SUPPLY COMPANY
6650 South Cicero Avenue, Chicago 38, Illinois

Designs for Bags

(Continued from Page 70)

Anthony joined with Chase. He is a graduate chemist and is familiar with art production. He is assistant to Mr. Jones.

The Chase general art department as has been stated above, is housed in one of the largest plants in the United States heated by a floor panel radiant heating system. Ten miles of pipe under the floor carries the heat from the boiler to all parts of the building. Windows in the art department are Coolite glass set in steel sash to provide the proper kind of light needed by artists.

The space allotted the art department, according to Mr. Jones, is ideal for the type of work involved. An area of approx. 10,000 sq. ft. is provided with 67 windows to yield the maximum amount of natural daylight. Fifty fluorescent lights supplement the need for additional lighting.

Platemaking Facilities

In order to produce plates for bags it has been found necessary to install composing equipment, photo-engraving plant, stereotype equipment (with steam table), rubber vulcanizing press equipment and a rubber plate hand-engraving department. With respect to the hand-engraving of plates Mr. Jones states there is still a great need for hand-engraved plates and younger men are being trained in this almost lost art.

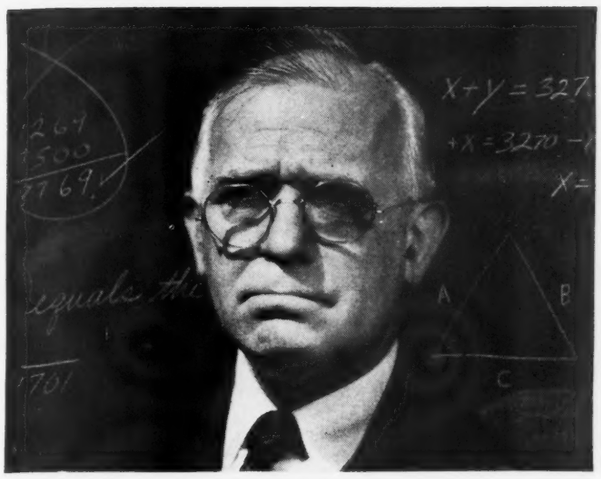
Modern equipment has been installed, including a photo-engraving room with air-conditioning, heat-controlled sinks, controlled humidity and plate etching equipment and routing equipment.

Because rubber plates are used in printing fully 90% of all cotton and burlap bags, the vulcanizing process has been developed to a very high degree. The use of 65 line screen halftone rubber plates is not uncommon in printing cotton bags. Modern rubber plate vulcanizing machines, special grinding and shaving machines with dust collectors attached and other incidental equipment have been provided upon which can be produced the highest quality plates.

Mr. Jones explained that for textile printing (cotton and burlap bags) the machinery used in the actual printing process is necessarily crude compared to modern paper printing equipment. He reports that the heads of commercial printing plants upon their visits to Chase, shake their heads and say they would not believe the results obtained by Chase are possible unless they had actually seen the plant in operation. "Unknowingly," said he, "we rush in where the proverbial angles fear to tread—and we get by with some surprising results."

In addition to the art and platemaking operations, Chase maintains a small but useful chemical laboratory for testing inks. The ink for the fourteen branches is purchased by and tested in this department.

Pridefully, Mr. Jones remarked that the important chore of training person-



FIRMNESS IS A VITAL NEED

A quality essential in a fine newspaper press blanket is firmness. VULCAN Press Blankets are outstanding for this characteristic.

Another notable feature of VULCANS is precise uniformity of thickness throughout every square inch of blanket area. This, too, is vital to uniformly good impression.

With VULCANS no overpacking of impression cylinders is required. You will get longer press runs with a minimum of impression changes. You will print a more readable paper with less press time and effort. And with VULCANS, pressmen can save time, as well as money on paper and ink, too.

Vulcan
PROOFING COMPANY
FIRST AVENUE & 58th STREET • BROOKLYN 20, NEW YORK

Pacific Coast Representative: THE CALIFORNIA INK COMPANY, INC
Canadian Representative: SEARS LIMITED, TORONTO

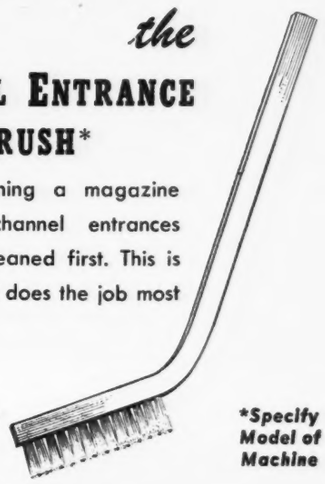
CLEAN-UP TIME

is here for most Linotype Departments. Make it easier and quicker with these two *STAR* accessories:

the

CHANNEL ENTRANCE BRUSH*

No use cleaning a magazine unless the channel entrances have been cleaned first. This is the tool which does the job most efficiently.



*Specify Model of Machine

then—

the

NYLON MAGAZINE BRUSH

is indicated for a wonderful job of magazine cleaning. Unaffected by the usual solvents, it will clean four times as many magazines as the ordinary brush without losing bristles.

***Guaranteed**

CUT MAINTENANCE TIME BY USING
ACE (STRETCHLESS) **BELTS**

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Branch Office: 1327 BROADWAY, KANSAS CITY 6, MO.
CHICAGO • MINNEAPOLIS • DENVER

nel to create designs and to handle the machines has been carried on successfully. The four artists employed, including a well known artist as well as a fine detail man, and the younger men, are developing rapidly with new styles of their own.

President F. H. Ludington and Vice President C. S. Sheldon, the latter of whom is in charge of all factory operations, are largely responsible for the creation of the centralized art and platemaking department with Mr. Jones' management.

Announces New Course

A General Lithographic Day Course to start in September and continue for two school years has been announced by the New York Trade School. The object of the course is to insure a thorough grounding in the fundamentals of offset-lithography as practiced today. As planned the time is to be equally divided between shop work and related work. Comprehensive trade knowledge rather than trade skills is the primary objective because it is expected that the graduates will eventually serve the industry primarily as executives rather than as craftsmen. Relatively more time is to be given to photography and press than to the other trades. Both chemistry and physics as related to lithographic materials and procedures are to be covered and the technicalities of production and production control thoroughly considered. Planned visits will constitute an important feature of the course. Due to the high standards set for the course only high school graduates will be accepted.

the SUREST ANSWER to your ink problems

In the working characteristics of your ink, and in the qualities of density, coverage and color strength lie a great many answers to smoother printing production.

Couple a carefully formulated, top quality ink to a sincere, wholehearted service backed by ample experience . . . the result is soon visible and gratifying.

Get in touch with us . . . a trial is worth a thousand words.

TCCO TRIANGLE Ink and Color Co., Inc.
305 East 45th Street, New York 17, N. Y.
over 25 years service to fine Lithographers and Printers

ANPA Conference

(Continued from Page 74)

spoke on *Composing Room Operation*, followed by a discussion period on the same subject.

"There is great need for discussion on composing room operation at this time," said Mr. Wolf in his brief remarks, "because of the tremendous increase in operating costs and also because of the scarcity of trained men. I trust you executives will enter into this discussion and give us the benefit of your experiences."

Production Manager John W. Park of the Chicago *Tribune* was the first to take the floor. He said the *Tribune* would go back to the conventional method of production whenever conditions permitted.

Charging Authors' Alterations

What has been the result of making charges for changes in ad copy—were the abuses corrected or did it result in just more bookkeeping and a little more revenue?

Leon Link, Production Manager of the Cleveland *Plain Dealer*, reported his paper made no charge for alterations on the first proof even if it meant resetting the entire ad copy. On the second proof his paper allows alterations on a sliding scale based on the size of the ad copy, the alteration time being computed in hours or portions of hours. On alterations made on the third proof his paper makes a charge. He expressed the idea, however, that the charges should be higher and that deadlines should be established which his paper does not have at present. It was this speaker's belief that alteration charges should be high enough to materially advance the cost of advertising to the advertiser which will give him a dollars-and-cents reason for furnishing the newspaper with better prepared copy.

Talbot Patrick of the Rock Hill (S.C.) *Herald*, told the session that it had been his experience in the smaller community with only one paper that the mere threat of charging for alterations was enough to eliminate much if not all of the demand for alterations.

Julian Eberle of the Milwaukee *Journal* came up with a solution for the alteration problem that struck a welcome chord. His paper uses a charge system that if the alterations tear the copy apart too badly, the set-up is scrapped and counted as a kill and the revised copy reset from scratch. This was reported to have worked out very well in greatly reducing alterations.

Compacting Composition Costs

Composing Room Supt. Sam Carmichael of the Pittsburgh *Press*, spoke on

(Continued on Page 88)

DEPENDABILITY in a TUBE

That exactly describes a tube of BOOTH'S Zink Cut Cement . . . dependable for mounting cuts because it sets up quickly and holds fast . . . eliminates danger of cuts being out of position. Of course...in a ready tube dispenser. Send for a dozen today.

PRICES: In the United States:
75c per tube, $6.00 a dozen tubes
$5.00 a dozen in gross lots.

What do YOU want in a RUBBER ROLL?

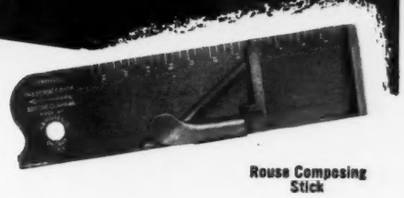
Well, if you are like most line casting machine operators and machinists, you will want smooth, sweet-running, highly responsive rubber rolls . . . with maximum cam tread friction, resistance to glaze and an even diameter when installed. And you get all these when you buy BOOTH'S Black Rubber Rolls.

PRICES: $1.45 per pair.
$7.75 per dozen

E. A. Booth Rubber Co.

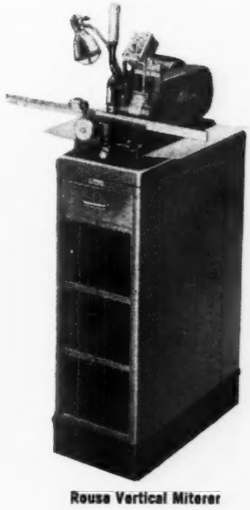
MAHONING BANK BUILDING
YOUNGSTOWN, OHIO

NOW IS THE TIME...To make a "Condition Check" of Your Printers' Tools



Rouse Composing Stick

When you inventory equipment, it's a good policy to check the condition of every item—*particularly small tools.* Only precision tools—in first class shape—can help you to maintain top-quality output for your entire plant.



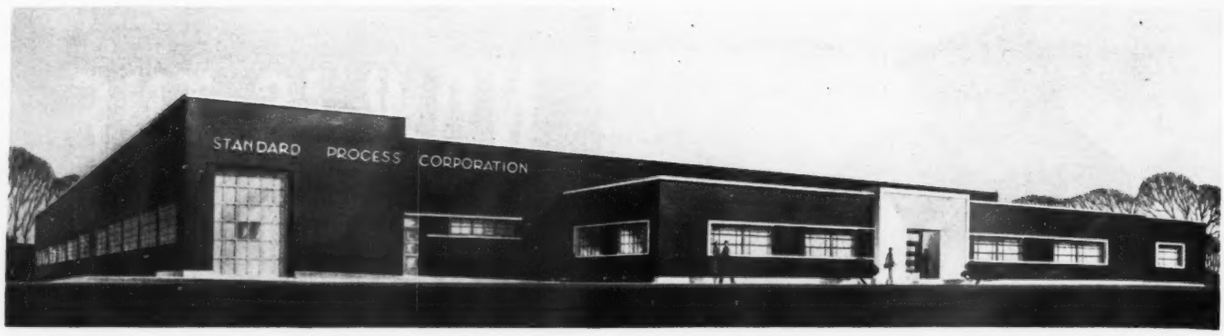
Rouse Vertical Miterer

Insure profitable, efficient composing room production . . . Specify Rouse Tools for replacements—Rouse Hand and Vertical Mitering Machines, Lead and Rule Cutters and Composing Sticks.

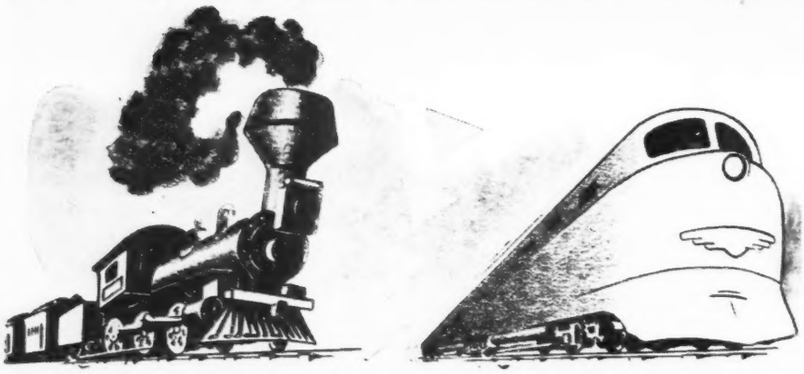
Rouse Hand Miterer

H. B. ROUSE & COMPANY

2214 North Wayne Avenue • Chicago 14, Illinois



Modern New Home of Standard Process Corp., 2704-22 West Roscoe St., Chicago 18, Ill.



Hi-balling 20 miles per hour *Hi-balling 80 miles per hour*

IT'S NEW TO YOU

if you haven't tried it recently

Shouting from the house tops — with cacophony and tympany — that Edes Photo-Engraving Metals have an edge over other metals — and that they are *better today* than they ever were — won't do either us or you a bit of good UNTIL YOU TRY THEM.

We know that Edes Regular Zinc is *better today* than ever before. It was mighty good zinc 50 years ago. Through laboratory research it is made a little better every single year. How much better is it today than it was five years ago? Testing gives the true answer. You owe it to yourself to check Edes Zinc for etching quality, temper, gauge, stretch and surface. Check also on better profits and more satisfied customers.

Remember that a product that is being constantly improved, is really new to you — until you have tried it. And tried it *recently*. It will cost you nothing to investigate. Prove to yourself that Edes Metals are *better today* than ever before. See your nearest Edes dealer.

EVERY YEAR IT'S BETTER INVESTIGATE

EDES

PHOTO-ENGRAVING METALS

EDES Photoengraving METALS
Regular Zinc
Hard Matrix Zinc
Triplemetal
Copper
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New York Representative, R. P. BICKFORD, Room 2118, 420 Lexington Ave., New York ● *Distributors*, G. C. AMENTA, 5842 North Leonard Ave., Chicago 30, Illinois ● GEORGE R. KELLER, 1329 N Street N.W., Washington, D. C. ● CHEMCO PHOTOPRODUCTS CO., New York, Atlanta, Dallas, Chicago, New Orleans, Boston ● ALLAN B. CROKE CO., Boston ● W. OLIVER TRIPP CO., Boston ● C. S. ILLINGWORTH, Buffalo ● G. C. DOM SUPPLY CO., Cincinnati ● J. W. FEINSTEIN, San Francisco ● MID-WEST PHOTO ENGRAVERS SUPPLY CO., St. Louis ● THOMPSON-HAYWARD CHEMICAL CO., Kansas City ● E. H. WALKER SUPPLY CO., Washington, Richmond

Standard Process is in New Home

CELEBRATING the twentieth year of its existence, the Standard Process Corp. is moving into its new home at 2704-22 West Roscoe St., Chicago 18. The modern office and factory building cover an area of approx. 28,000 sq. ft. with an additional area of 12,000 sq. ft. of land for future expansion. The moving was expected to have been completed by the end of July.

The two purposes in founding the business, were to introduce the Ballard Process of plating to rotogravure printing establishments, and to standardize the equipment and supplies used by rotogravure printers. At the present time, the firm manufactures rotogravure grinding and polishing machines, printing and graining cylinders, rotogravure printing and laboratory presses, layon machines, doctor blade grinders, sundry plating equipment and hot-melt coating machines.

Standard Process Corp. was incorporated in the state of Delaware. Temporary offices were established in San Francisco in March 1928. The company was moved to Chicago in May 1928.

First president and one of the founders of Standard Process Corp. was Russ B. Leech, who was formerly business manager of the San Francisco *Chronicle*. He continued as president until his death in May 1945.

Officers of the company are as follows:

George W. Leech is president. His association with the corporation began in August 1936 in the capacity of salesman, becoming secretary and one of the directors in November 1939. He is a director and became president in September 1945.

Vice President of the company is Emil Ericksson. In May 1928 he began as engineer. In September 1945 he became vice president and director.

Secretary-Treasurer of the corporation is Miss Caryl L. Elsey. Her connection with the company started in March 1928 as assistant secretary of the corporation and as secretary to the president. In February 1929 she became secretary and a director, which position she held until February 1936 when she was elected secretary-treasurer and director. At the present time she is secretary-treasurer and director.

Information Service

Announcement has been made by Imperial Type Metal Co. that anyone wanting answers to questions or problems about zinc engraving may secure them by writing to Imperial Type Metal Co., c/o Zinc Question Box, 1276 West Third St., Cleveland 13, O. Any question or outline of any problem pertaining to the engraving of zinc plates may be submitted. This service is offered without charge or obligation. Questions and answers will appear in the *Imperial Zinc Magazine* but without the name of the sender. If a quick reply is desired, the answer will be sent immediately by mail.

New Ownership for Invention, Inc.

The Babson Organization of Babson Park, Mass., has taken over Invention, Inc. from Raymond E. Jager, with its entire research staff. Invention, Inc. was largely responsible for perfecting, over a period of years, the scientific Patent Research Services now subscribed to by many manufacturers and patent attorneys. Roger W. Babson, founder of the Babson Organization and A. C. Babson, president, became interested in the work of Invention, Inc. some time ago because of the significant relationship between patent research and corporation growth and profits. The policy of the new organization will be to maintain and improve Invention, Inc. patent services in every way possible.

REDUCE SPOILAGE

secure better register with **TORNADO**

Industrial Vacuum Cleaners
AND
Portable Electric Blowers

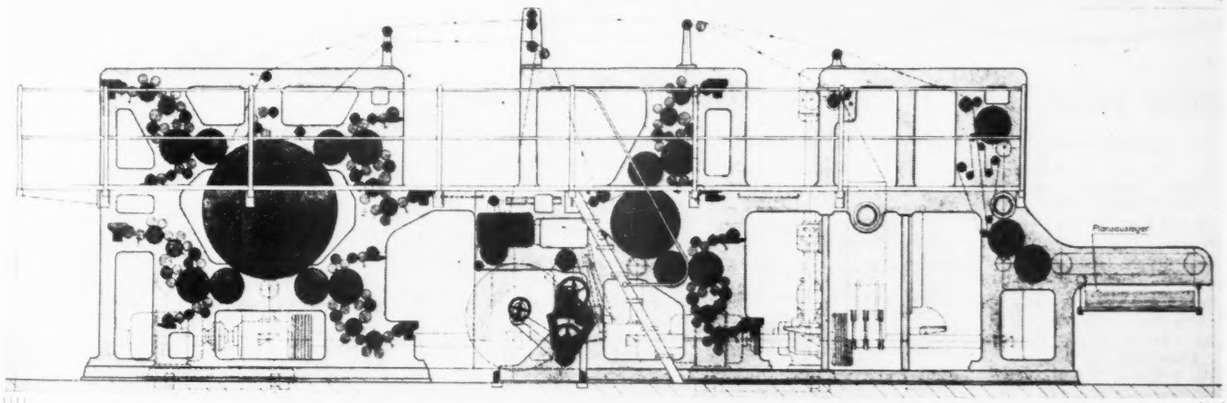
These essential shop maintenance machines keep floors, air and machinery free from dust, dirt, lint and fuzz which cause spoilage, throw presses out of register and interfere with clean, perfect work.

TORNADO Industrial Vacuum Cleaners have powerful suction, clean quickly the first time over, *remove* any debris that will pass through the nozzle—are sturdy, trouble-free, large capacity machines of proved performance in the graphic arts.

TORNADO Portable Electric Blowers deliver strong steady, continuous streams of clean, dry air to remove all foreign matter, oily fuzz and small obstructions from motors, gears and interiors of all moving equipment.

Write for Literature or Free Demonstration

BREUER ELECTRIC MFG. CO.
5134 RAVENSWOOD AVE., CHICAGO 40, ILLINOIS



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MASCHINENFABRIK AUGSBURG - NUERNBURG A. G.

HIGH SPEED WEB PERFECTING ROTARY OFFSET PRESSES

6 COLORS IN ONE OPERATION!

1-2 COLORS ON ONE SIDE, 1-4 COLORS ON THE OTHER. SPEED: 15,000 CYL. REVS./HR.
DELIVERS IN 32 PAGE MAGAZINES (STITCHED AND FOLDED) OR FLAT SHEETS.

ALSO:
ROTOGRAVURE WEB PRESSES WITH VARIABLE SIZE FOLDER
HIGHSPEED NEWSPAPER PRESSES

PARSONS & WHITTEMORE
INCORPORATED
10 EAST 40th STREET • *Exclusive Agents* • NEW YORK 16, N. Y.

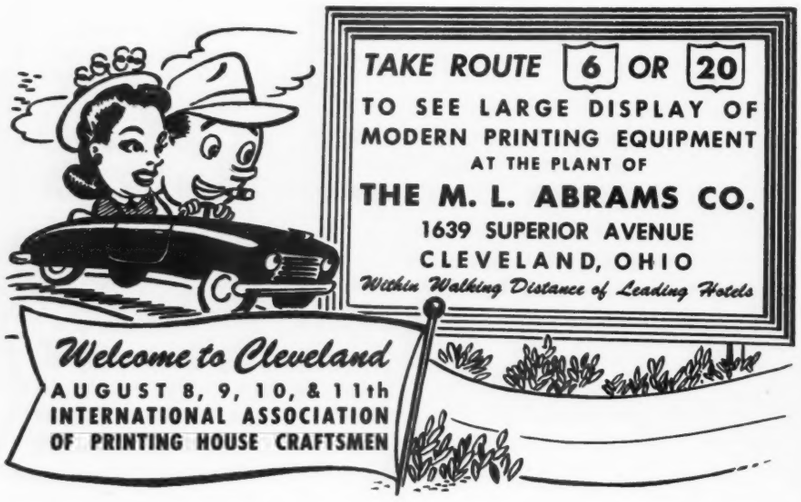
EXECUTIVE ¶s

Morris Fuller Benton, 75, famed type designer, died June 30 in All Souls' Hospital, Morristown, N. J., a few hours after he was admitted because of a cerebral hemorrhage. He was a resident of Plainfield, N. J. for many years, but had recently lived on Long Hill Road, Millington, N. J. Mr. Benton retired in 1937 after a long and notable career with American Type Founders, at Elizabeth, N. J., where he was chief type designer. Born in Milwaukee, Wis. in 1873, and graduated from Cornell University in 1896 with a degree in mechanical engineering, Mr. Benton joined American Type Founders as an assistant to his father, Linn Boyd Benton, whose punch- and matrix-cutting machines modernized printers' foundry type production. For several years, young Benton was engaged in standardizing the type lines taken over when 23 type founders merged in 1893 to become ATF. Later, he originated the type family, which was to prove highly useful in advertising printing. The first type design he expanded into a family was Cheltenham. Other outstanding type families which bear his stamp are Cloister Old Style and Century School Book. Morris Benton was the grandson of Charles Swann Benton, newspaper publisher and jurist who was considered as a candidate for the U. S. presidency in the 1860 Democratic convention that nominated Stephen A. Douglas. Mr. Benton is survived by his widow, Mrs. Katrina Ten Eyck Benton, and two daughters, Mrs. Winthrop C. Swain of New York, N. Y., and Mrs. Gordon C. Gregg of Milwaukee, Wis.

R. W. Brunsman, Sales Manager of Hamilton Mfg. Co., announces that on August 1, Ray C. Cook joined the Hamilton organization as Sales Director of the Printers Equipment Division. Following training at Tennessee Military Institute and Army service in World War I Mr. Cook has been employed by Western Newspaper Union. Since 1924 he has been manager at Sioux City, Ia. In 1933 Mr. Cook served as President of the Sioux City Rotary Club and in 1937 as Governor of the 119th District of that organization. He is married and has two children. He will make his home and headquarters at Two Rivers, Wis., where the general offices of Hamilton Mfg. Co. are located.

Ray C. Cook has been announced as Sales Director, Printers Equipment Div., Hamilton Mfg. Co.

Linotype Parts Co., Inc., announces the appointment of James L. Bourque and John W. Buset to its sales staff. Mr. Bourque is a practical printer and has had sales experience in the composing machine field. He has been assigned to the Southeastern territory. Borque's home is in Cincinnati (O.) and is on reserve as a lieutenant colonel in the Air Force. Mr. Buset is a printer from the Texas-Oklahoma region. He has been assigned to the Northeastern territory. Everett C. Miller, who has been on leave of absence, rejoins the Linotype Parts Co. through its Chicago agency, as assistant to Homer E. Dunn, manager of the agency.


TAKE ROUTE 6 OR 20
TO SEE LARGE DISPLAY OF
MODERN PRINTING EQUIPMENT
AT THE PLANT OF
THE M. L. ABRAMS CO.
1639 SUPERIOR AVENUE
CLEVELAND, OHIO
Within Walking Distance of Leading Hotels
Welcome to Cleveland
AUGUST 8, 9, 10, & 11th
INTERNATIONAL ASSOCIATION
OF PRINTING HOUSE CRAFTSMEN

Another Partial Listing of Our Large Stock of Used Machinery

LETTER PRESSES

10 x 15, 12 x 18 Chandler & Price Craftsman Automatic with impression control
12 x 18 Kluge Unit
Miehle Vertical, V-36
Kelly Clipper, 14 x 20
Kelly B Special
Kelly No. 2 with re-loader
Miller Major, 27 x 40
No. 1 Miehle, 35 x 52. For newspaper work
No. 2 Miehle, 34 x 49
No. 3 Miehle, 32 x 45
No. 4 Miehle, 28 x 40
No. 43 Babcock 25 x 38
3 Spray Guns (rebuilt)

OFFSET EQUIPMENT

Davidson, almost new
Model 1227 Multilith
Webendorfer, 17 x 22 sheet size, 16½ x 21¼ image
S8L Harris, 28 x 42 Sheet size
Pease Heli-O-Lite, Camera Lamps, 50 amp.
17 x 19 Multilith Camera with lens and steel stand. Never used
Vacuum Frame, 30 x 40

CUTTER AND CREASERS

14 x 22 Colts Armory
37 x 52 Babcock, converted, for heavy board
42 x 60 Huber Hodgeman, converted. Recently rebuilt

COMPOSING ROOM

Vandercook Full Page Power Proof Press
Hoe Mat Roller, full page
Miller Heavy Duty Saw Trimmer
Wesel Radial Arm Router
Shaver, Ostrander Seymour. Full page, flat shaver
Casting Boxes, several sizes

PAPER CUTTERS

30½" Challenge Diamond Hand Lever Cutter
34½" Craftsman Chandler & Price late style power cutter
38" Dexter Automatic
45"Seybold Precision
45" Seybold Dayton
55" Seybold Holyoke

BINDERY

Model WF Cleveland Folder with Friction Feeder. Late style, 14 x 20
Model B Cleveland with Air Wheel Pile Feeder
Model B Cleveland with Hickok Continuous Feeder
Model 55 Baum, 14 x 20 folder, with suction feeder
Model 289 Baum, 19 x 25 folder with suction feeder
38 x 50 Dexter. Will make 32 page fold. Hand feed
25 x 38 Dexter with Harris Suction Feeder
Rosback Pony Rotary Pin Hole Perforator, 24 inch
Rosback Power Vertical Perforator, 28 inch
Rosback 10 Staple Gan Stitcher with 4 stations
No. 3, No. 4, Boston Stitcher
Wright Multiple Drill with 5 heads
36" Paper Slitter with re-winder
Portland Power Punch
Speedisealer with Suction Feeder. Makes and applies seals to pamphlets.

WRITE OR 'PHONE TODAY FOR FULL INFORMATION

THE M. L. ABRAMS COMPANY
NATIONAL DISTRIBUTORS
1639 SUPERIOR AVENUE • CLEVELAND 14, OHIO

THE BANTHIN AUTOMATIC 13 x 20

WILL PRODUCE MORE • AT LESS COST • FOR INCREASED PROFITS

A CYLINDER PRESS

. . . That is

SIMPLE . . .

RUGGED . . .

ECONOMICAL

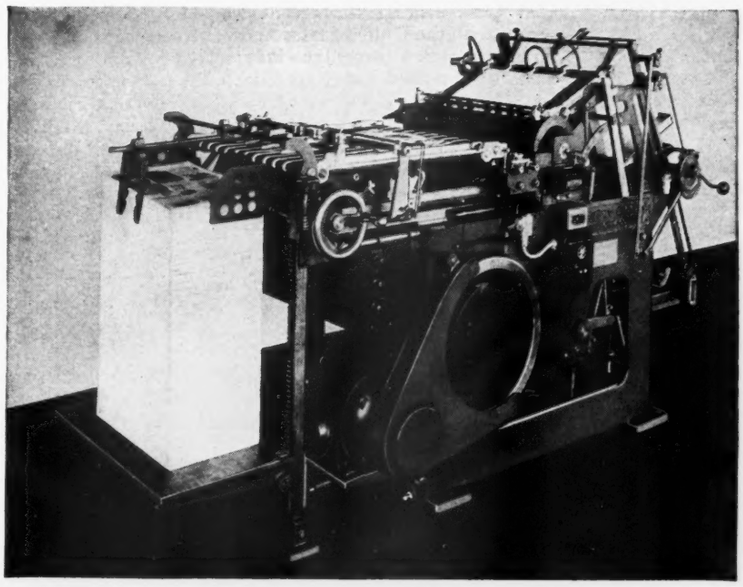
Sheet Sizes
3¼ x 5½ to 13 x 20

Inside Chase
13 5/16" x 19 3/16"

Floor Space
38" x 94"

Speed range:
2200 to 3800 IPH

Net Wt. 2500 lbs.



NOTE THESE FEATURES:

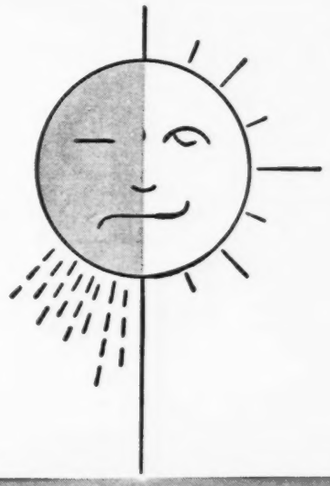
- Accessibility for faster and easier makeready.
- Simple feeder—quick change.
- Place chase in press from back or side—quick lockup.
- Visible Ink Fountain of large capacity—quick adjustment—fine setting.
- Great impressional strength and ample ink distribution.
- Convenient vacuum and air control with gauge.

WRITE FOR CIRCULAR

BANTHIN ENGINEERING COMPANY

1849-57 Main Street • FACTORY and SALES OFFICES • Bridgeport 4, Conn.

FOR 144 YEARS



Through rain and shine, the high quality of Johnson Inks has helped printers produce excellent work economically.

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ATLANTA
DALLAS

CHARLES ENEU Johnson AND COMPANY

GOOD INKS SINCE 1804

10th and Lombard Streets,
Philadelphia, Pa.

James H. Hayes, now Assistant Manager of Offset Press Div., R. Hoe & Co.

Appointment of James H. Hayes as Assistant Manager of R. Hoe & Co., Inc.'s Offset Press Div. was announced recently by C. W. Dickinson, Hoe's Offset Press Div. Manager. Prior to this appointment Mr. Hayes spent three years in the company's engineering department and three years with the offset press sales staff. During the recent war he served with the United States Army. Mr. Hayes attended Brooklyn Polytechnic Institute and resides at River Edge, N. J.

Sam B. Anson jr., General Sales Manager of Chemco Photoproducts Company, has announced the promotion of C. Harold Larsson to the position of New York branch manager. Born in Providence, R. I., Larsson entered the photoengraving field in 1927 when he went to work for the Crahan Engraving Co. in Providence. He began working for Chemco's southern territory in August 1938. For three and one-half years he served with the Air Force. While in service he attended Lowry Field Photographic School, was an instructor in photography at Yale University and served as photographic officer at Barksdale Field, Shreveport, La., Fort McKinley, Manila, P.I. and filled the same post with the 5th Photo Technical Squadron in Tachikawa, Japan. He is a member of the Photo-Engravers' Union and has covered the United States, Canada and Cuba for Chemco.

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are on the way...

to meet the need for

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TYPE IN LESS TIME

The demand for Teletypesetter, particularly by newspaper publishers, has reached a record high.

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TELETYPESETTER CORPORATION
1400 Wrightwood Ave., Chicago 14, Ill.

TELETYPESETTER
REG. U. S. PAT. OFFICE

ANPA Conference

(Continued from Page 82)

the need for reducing the variety of faces of body and head type, of eliminating trick combinations and set-ups, of reducing the number of head styles and eliminating boxes by substituting cut-off rules at the top and bottom of such matter and allowing the column rules to act as side rules of what would have been a box.

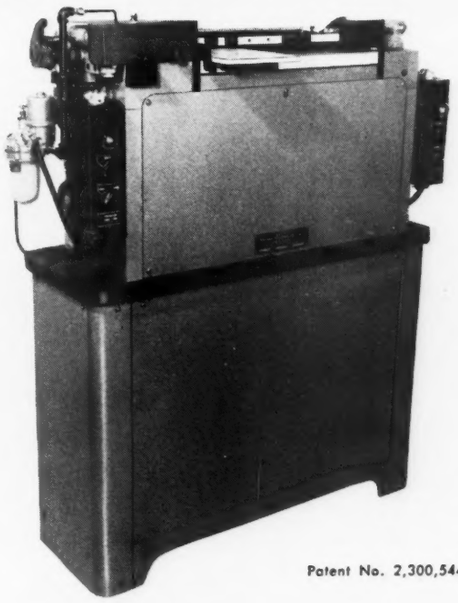
The question of colored Matrix Contrast matrices was brought up and it seemed to be the opinion of most present that they are a help in locating wrong font matrices in a magazine and a help in selecting sorts from the pi stacker.

Joint ANPA-AAAA Report

Ben Dalgin of the New York *Times* was introduced as the next speaker. Mr. Dalgin told of the work of the ANPA-AAAA Joint Committee on Newspaper Printing and of the first booklet that has been prepared and which will shortly be distributed. This booklet is entitled *Proper Preparation of Art Work for Good Newspaper Publication.* It covers the field of photographs, wash drawings and pen and ink drawings, lettering and type faces, solid black or reverse cuts and other matters which enter into the preparation of newspaper ad copy. The speaker had slides with him of many of the pages of this booklet which were thrown on the screen as he explained the booklet and its value to advertisers and others.

Ernest Donohue of the advertising firm of Batten, Barton, Durstine & Osborn of New York, N. Y., was the last speaker on the program. He spoke about the second booklet that this same committee will issue after the first booklet is distributed. In this booklet will be discussed the difference in printing with rotary presses on newsprint and printing on job and magazine presses and on better paper. In it also will be discussed the manufacture of engravings and duplicating material such as electros, and like the other booklet will include a series of *Do's and Don't's.*

The next conference was announced for Chicago at some date in June 1949.



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BINDS MORE BOOKS for LESS MONEY!

Automatic Production *Slashes* MECHANICAL BINDING COSTS

Another FIRST for SPIRAL

"SB6" SPIRAL BOOKBINDING MACHINE

Binds books from 3/32" to 11/32" thickness.

"SB7" SPIRAL BOOKBINDING MACHINE

Binds books from 3/8" to 5/8" thickness.

Check These Exclusive Features

- **FULLY AUTOMATIC**
  Coils Wire, Inserts, Trims and Turns in Ends.
- **UP TO 1000 BOOKS PER HOUR WITH ONE OPERATOR**
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- **REJECTS IMPERFECT BOOKS**
  before binding
- **REDUCES FATIGUE AND ERROR**
- **QUICK, EASY SET-UP**
  Practical for small runs.

Let Us Arrange A Convincing Demonstration

SPIRAL BINDING COMPANY, Inc.

EQUIPMENT DIVISION

406 WEST 31st ST. NEW YORK 1, N. Y.

Let's Measure the Dog FIRST!

We've seen basement carpenters make a beautiful new doghouse for Shep only to find that either it was too small or Shep outgrew the house in short order. Sometimes that happens to printing plants. An outstanding architectural gem is erected and then it is discovered that it does not accommodate production or production grows so quickly that it cannot be accommodated in the new plant. So "let's measure the dog first." Let's provide for present and foreseeable future production .Morton L. Pereira & Associates have been specializing for 30 years in planning and building printing plants around production. We prefer to work in the early "thinking stage" with those plants considering a building program. Let's get together and talk about your new program.

MORTON L. PEREIRA & ASSOCIATES

Engineers • Architects

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GIANT TYPE

Large display faces are a specialty at L. A. Type. Adscript, Alt. Gothic No. 1, Bodoni Med., Flash Light and Bold, Futura Bold, Bold Cond. Extra Bold, Extra Bold Italic, Extra Bold Cond., Garmond Bold, Jefferson Gothic, Onyx, Stymie Light, Med. Cond., Bold, Extra Bold, Extra Bold Cond., Tourist Gothic, Ultra Bodoni and Italic are some of the series available to 72 point. Write for free specimen price list.

L. A. TYPE

225 E. PICO BLVD. • LOS ANGELES 15

Beck Expands Printing Div.

WITH the delivery of a new four-color sheet-fed gravure press, first of its kind in the world, The Beck Engraving Co., Philadelphia, has temporarily completed expansion of its letterpress and gravure pressrooms. The new four-color gravure press was built by the Miehle Printing Press and Mfg. Co. Taking a 29 in. by 43 in. sheet, this press has a maximum running speed of 5500 sheets per hour which provides an actual production of upwards of 3000 sheets per hour. The press will be used for producing a variety of work including such printed material as greeting cards, magazine inserts, book work, and commercial booklets.

The gravure department of the Beck Printing Division now has a total of 12 monotone and color press units which provide a weekly capacity of 2,280,000 impressions. This capacity has grown from one of 20,000 impressions per week 19 years ago when Beck first introduced sheet-fed gravure to this country.

In the letterpress department, Beck has added new two-color and single color cylinder presses, so that the firm now has a total of 14 presses comprised of 22 printing units. These give the department a weekly capacity of 1,584,000 impressions on a one-shift basis.

An Interesting and Unusual Operation—**One of the 16,000 lb. units of a new Miehle four-color, sheet-fed gravure press, being hoisted into the second floor window of The Beck Engraving Co., Philadelphia.**

Having started in business 50 years ago as photo-engravers exclusively, few people have been aware of the printing facilities available at The Beck Engraving Co. Actually, however, the Printing Division was created in 1912 and has been expanding ever since. Work has been produced by the Printing Division over a period of 36 years for such clients as the National Geographic Society, The National Gallery of Art, Random House, Simon and Schuster, and many of the country's advertisers and their agencies. Several books printed by Beck have been selected among the "Fifty Best Books of the Year".

PLAN NOW

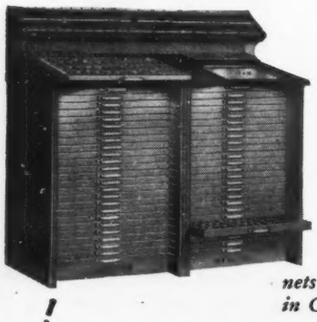
for a Modern, Completely Hamilton-Equipped Composing Room

● One step at a time is all it takes to provide the well-arranged, well-equipped composing room that every printer would like to have . . . the composing room that by its very appearance reflects maximum working efficiency.

First is the preparation of the basic floor plan. Such a plan will serve as a working diagram for a long range modernization program that will insure greatest production from smallest amount of equipment and from minimum floor area.

Next is the carrying out of that program, one step at a time, over as many weeks or months as may prove convenient for you. Perhaps some re-arrangement of present facilities and the discarding or replacement of obsolete equipment is all you will need to attain your goal.

Your Hamilton Dealer will be glad to work with you, both in helping you prepare a basic plan and in the step-by-step development of your modernization program. He has available for you the layout sheets and the accurately-scaled miniature illustrations of equipment you will need to get your program under way. Or write us and we shall be glad to send you this material.



Seventeen different designs of Hamilton Type Cabinets for job and newspaper composing rooms are illustrated in Catalog No. 23C which will be mailed you on request.

HAMILTON
MANUFACTURING COMPANY
TWO RIVERS, WISCONSIN

Arizona Printers

(Continued from Page 51)

shade at distributor, and power and light coming down from ceiling along the main column. At stitchers, saws, drills, etc., using 110 V. power line, a drop cord from the ceiling drops right over the spot where the snap-lock plug is positioned so the cord hangs perpendicular.

Cold Cathode Lighting

Cold cathode lights (55 of them) have been installed. These are placed so that every press has its own light. In fact, every machine in the plant has its own light. Trough lighting is used in the composing room and the job pressroom. Every bank and every stone has its own

TWO THINGS THAT MAKE VACATIONS PLEASANT

The picture shows one of them—a charming companion, preferably a wife . . . The other doesn't show but is mighty important—the fact that Certified Mats don't take vacations.

For dependable stereotyping, rely on Certified Mats

Certified DRY MATS

CERTIFIED DRY MAT CORPORATION, 9 Rockefeller Plaza, Dept. M, New York 20, N. Y.

how to

ELIMINATE STATIC

SAFELY!
SURELY!
ECONOMICALLY!

The moment you install the OXY NEUTRALIZER BAR, you entirely eliminate all static problems from paper, acetate and cellophane. Production is smoother . . . more efficient by far; the OXY NEUTRALIZER BAR makes extra handling unnecessary, eliminates paper jams and results in the delivery of perfectly jogged piles.

The OXY NEUTRALIZER BAR is fully guaranteed . . . designed for use on all machines . . . will pay for itself in a few short months.

Write for full information giving specifications.

HERBERT Products Inc.

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For Better Alignment—
3 to 4 Times Faster!

SYNTRON

"VIBRATING"

PAPER JOGGERS

FILL THE BILL!

They'll help to reduce the high cost of production by speeding up manual jogging—getting more stock to the cutter, to the press, to the bindery—in a shorter time.

Write for Folder

SYNTRON CO.
577 LEXINGTON
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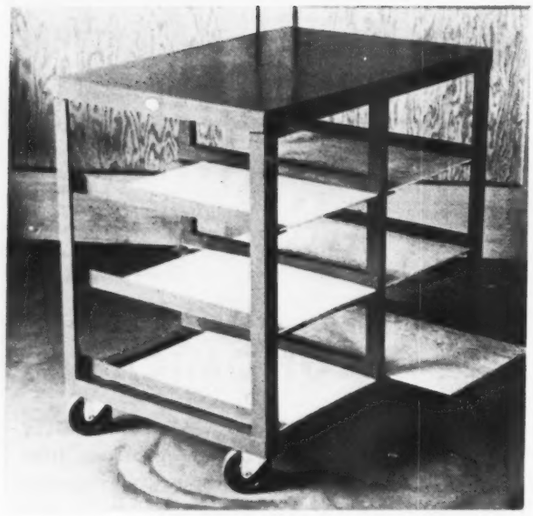
The Royle Router

- A large table mounted on a rigidly constructed column.
- Convenient alignment and tightening of driving belts.
- Running parts designed to reduce vibration.
- Sufficient speed at cutter edge to route fine or rough out without reducing speed.
- Precisely fulcrumed elevating mechanism assures immediate reaction to pressure on the foot pedal.
- Changing cutter heads a matter of seconds.
- Speed and balance are built into Royle Routers.

JOHN ROYLE & SONS

Established 1855

10 Essex Street **Paterson 3, N. J.**



Rolling Table Introduces Conveyor Principle — "One can't make streamlined methods of production work out in the average printing plant, but the principle of conveyor economy of operation can be employed in a modified sense." Mr. Greer introduced this Rolling Table in the plant of The Arizona Printers, Inc. This equipment consists of 34 Rolling Tables as shown in the accompanying illustration; 8 signature trucks; 4 heavy-duty steel trucks and 2 dollies. The Rolling Table first mentioned will be described briefly. The Tables have 24 in. by 32 in. tops and like all other work surfaces in the plant, is 30 in. from top to floor; heavy duty rubber-tired casters provide mobility. To illustrate use of the Table: The cutter cuts stock down to press size and loads it upon one or more of the Tables. Each of the Tables is equipped with six pairs of rails below the top into which fit as many plywood boards that fit the Miehle Vertical. Quantities of stock can be placed on the plywood boards and more stock loaded on top of the table. Capacity of each Table is 1000 lbs. The cutter tags each Table with the Job Number. Tables are rolled into what is called a "reservoir area" behind the press upon which the job is to be run. An empty Rolling Table is placed in front of the press to receive the printed work. Each empty plywood board for the Miehle Vertical is inserted onto the delivery table and when full is removed from the table and slid into the empty rail space under the Rolling Table top in front of the press. When full of printed stock, the Rolling Table is moved to another press (if necessary) or to the bindery, the cutter, inspection, wrapping or shipping. To fully appreciate the value of these Rolling Tables and their operation, read Mr. Greer's description in the accompanying article.

lighting setup. The cutting table has a 4-tube 5½ ft. light, and the inspection table has a 4-tube 8 ft. light fixture. A number of fluorescent fixtures taken from the old plant were used at certain points. They were used in the washrooms, in stock aisles, at the loading dock along the back row of the skid stock storage, and in the remelting and stereotype room.

A fluorescent 1-tube fixture was placed under the feedboard of the No. 3 Miehle. The No. 4 could not accommodate this type so two regular sockets were placed one on either side of openings in the feedboard frame. There are outlets at cylinder at delivery end and Vertical presses to plug in for 110 V. This takes care of the sprayers and trouble lights. At the Kluge press a 110 V. line with plug-in is available for sprayer or trouble light. Each Vertical press has a small 110 V. light with switch so that it shines right over the fountain. It is placed under the pan that is on the feeder section. It makes a hit with Vertical pressmen. The light naturally swings as the feeder swings because it is fastened on the feeder section.

Another pressman's delight has been installed. It is a markout booth. This has a markout table about 28 in. by 36 in. at the correct angle. It is lined with Masonite. It has three walls, but the front has a drop curtain down to shoulder height. The top has canvas with clearances for air circulation in hot weather. There is a

COOLER STEREOTYPE-MELTING AREAS

with GE CAST-IN IMMERSION HEATERS

Improve working conditions around your stereotype-melting pots... bring down surrounding temperatures as much as 30 F!

G-E cast-in immersion heaters enable you to do this because they're immersed directly *in* the molten stereotype metal. No heat is wasted; full heat is applied to the metal.

Electric stereotype melting with G-E heaters gives faster, more uniform heat distribution through precise temperature regulation. This adds up to minimum surface dross, more and better castings.

Whether you're modernizing your present plant or planning a new one, investigate how you can convert quickly and easily to the modern, electrical way of stereotype melting. The Heating Specialist in the nearest G-E Office will be glad to discuss this with you.

Write for free bulletin GEA-4653. *Apparatus Department, General Electric Company, Schenectady 5, N. Y.*

GENERAL ELECTRIC

FLEXIBLE HOSE for JUSTRITE SAFETY CANS

Handy in the tight spots! That's the Justrite flexible metal pouring hose. Can be turned to any convenient position and it's rigid enough to remain there.

Fits all models of Justrite safety cans of ½ gal. and larger capacity made since Nov., 1945... gives an added measure of safety and convenience in pouring flammable liquids...makes these cans even more usable.

Converts any JUSTRITE SAFETY CAN (of ½ Gal. and Larger Capacity) into a FLEXIBLE SPOUT CAN

The new Justrite flexible hose attachment is easily bolted on or removed. Every user of Justrite safety cans will want several listing at $1.98 each. Get yours now!

JUSTRITE MANUFACTURING COMPANY
2063 N. Southport Ave., Dept. A-1 Chicago 14, Illinois

FOR TOUGH

"MAKE UPS" TRY

It's the Color printer who knows what tough make-ups really are! Close margins . . . whisker moves for register . . . small plates . . . irregular shapes . . . complicated bleeds . . . are the rule rather than the exception with him. But he handles them all, without fuss or excessive costs . . . if he is BLATCHFORD-equipped.

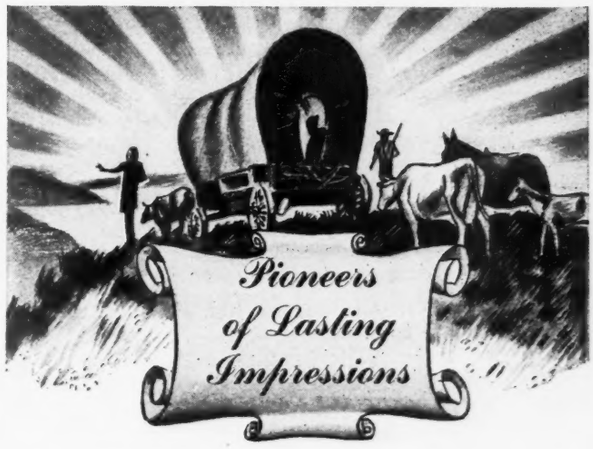
Blatchford

GUARANTEED BASE

E. W. BLATCHFORD CO.

Branch of National Lead Company

NEW YORK CHICAGO



Glance backward through the years of graphic development and you will see how the first American dry mat, pioneered by Wood in 1915 marked an important forward stride in stereotyping reproduction. Today, Wood Dry Mats still lead in "engineered" quality.

Sample Mats Sent Free Upon Request

WOOD FLONG CORP.

Oldest In The Country — First In The Field

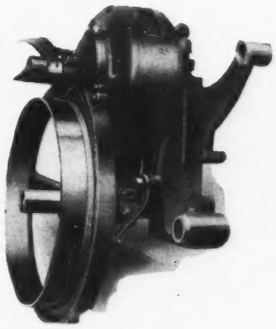
HOOSICK FALLS · NEW YORK

New York City Office: 551 Fifth Ave., New York 17, N. Y.

A word to the wise Linotype or Intertype owner.

"Time is of the essence.'

A spare motor is a good investment.



Immediate Delivery

CUSHMAN *offset* MOTOR

applied in minutes of time

PRECISION TRADE ★ MARK

LINOTYPE PARTS COMPANY

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CHICAGO • MINNEAPOLIS • DENVER

PLATE-TAK* . . .

the *Super-Thin* cut mounting tape

PLATE-TAK is unequalled for mounting or positioning any type of cut on either wood or metal base, and eliminates the need for tacks, cements, glues and other inconvenient materials.

PLATE-TAK is superior for use on the proof-press, layout table, and for preparing forms for the stereotype department . . . releases cuts cleanly, ready for filing.

Its extreme thinness prevents any bumping effect on halftone screen.

ORDER YOUR SUPPLY OF PLATE-TAK NOW

Prices:	Width	25 yd. roll	50 yd. roll
	¼"	.....	$1.50 ea.
	½"	$1.47 ea.	2.52 ea.
	1"	2.40 ea.	4.52 ea.
	2"	4.26 ea.	8.20 ea.

Less 5% discount on dozen rolls or over.

*T. M. Reg. U. S. Pat. Off.

EASTERN NEWSPAPER SUPPLY, INC.

9603 Northern Boulevard, Corona, L. I., New York

special light with special shade so that a long narrow slit of light can be thrown down the table at the correct height and pitch. This is controlled by a switch at the right. A few inches above this switch is another switch that controls another light directly overhead in the markout booth. The pressman has privacy, no outside light, and control of the light to see correctly the indentations for a perfect markout. The other overhead fixture can give him proper lighting to observe the surface of the impression, or opposite side of the sheet. A carpenter altered the markout table to hold a pane of ground glass instead of the Masonite. Then, with a third switch the light will reflect through the sheet. Thus, light coming across the sheet at the correct markout angle—or through the sheet for lineup or backup position—or light directly above the sheet would all be controlled with three switches, one directly above the other. There is a large markout booth made for the cylinders with the table measuring 30 in. by 44 in., based upon the same pattern as the job markout booth.

Organizing Table

Behind the Verticals is placed an organizing table designed by the writer some time ago. This unit measures 25 in. by 60 in. It has a steel top 1¼ in. thick and 19 in. by 25 in. size. Back of this stone is a well to hold quoins, key, mallet, planer, etc. Directly above this is a steel shelf that is the same size as the well (6 in. by 25 in.). To the right of this is a steel table (12 ga. metal) at the same level as the stone. This is the top surface of the table. Under the stone portion is an open space that has an opening 6 in. by 25 in. by 25 in. This is handy for loose wipers, or can be used for proofs, cans of ink, etc. By the way, the steel shelf can be used to hold benzine can, oil can, ink can with knife, etc. Below the opening under the steel top are two steel vertical drawers made adjustable to hold eight rollers each.

There is also a space to hold two forms, so that the pressman knows what the next forms will be on his press and will have advance time to look them over and prepare any premakeready work in order to get a faster start after the present job is completed. One of the biggest leaks in production is to get the next job started after completion of the previous one.

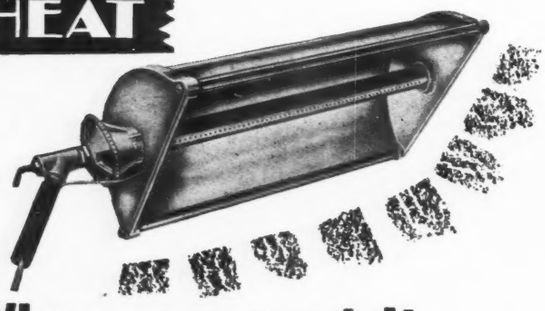
The right-hand section of this table is divided to hold tissue and French folio; then below that a section to hold press

Merits of LTF Cellulose Gum

(Abstracted from report of meeting held by Lithographic Technical Foundation's Research Committee in Detroit at time of NAPL Convention.)

DR. PAUL J. HARTSUCH told of his work to achieve better plate desensitization. He described some almost amazing results with the new cellulose gum which is rapidly replacing gum arabic in the processing of zinc albumin plates. Instances were cited where the life of zinc albumin plates has been increased more than 100%. Many other advantages from the use of cellulose gum were noted such as brighter ink colors, more consistent dot size during a run, and an increased ability to keep halftone shadows and fine reverse lettering open. By eliminating the need for bichromate and chromic acid in platemaking and presswork, cellulose gum eliminates an important source of dermatitis. One plant which had been faced with a serious dermatitis problem has not reported a single case since changing over to cellulose gum. Another great advantage of cellulose gum is that the chance of forming gum streaks is practically eliminated.

HEAT



When you want it... Where you want it

PARABOLIC HEATERS for ink drying on all types of presses, offer you a choice of gas or electric models in all sizes and heating capacities either automatic or manual operation.

The **PARABOLIC HEATER** is designed to handle the most difficult problems. Fast, uniform drying ... economy ... dependable performance ... and sturdy construction for long life are some of the advantages **PARABOLIC HEATERS** bring to your plant. Discover also its merit as a sheet conditioner over feeder pile.

Find out all the advantages of **PARABOLIC HEATERS!**

Write today for complete data.

HERBERT Products Inc.

74-32 JAMAICA AVENUE, WOODHAVEN, N. Y.

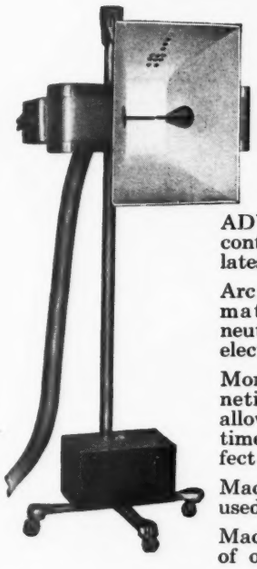
Specify BEVERIDGE *and you* **Specify PRECISION**

... Yes, when you specify BEVERIDGE, you're asking for a mat that will give you precision work ... that's the only kind we make. And we deliver them promptly regardless of grade.

New Products Division
The Beveridge Paper Company
Indianapolis 4, Indiana

Advance in light-coverage and control

Macbeth's new electronic CONSTANTARC



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CONSTANT **COLOR**

independent of line-voltage fluctuation

ADVANCED light-coverage and control reach their peaks in this latest Macbeth development.

Arc stabilization is fully automatic. Factory-adjusted to neutralize fluctuation of local electric service.

Monitor control operates magnetic switch, contains timer, allows operation independent of timer for focusing, provides perfect darkroom control.

Macbeth *AIRFLOW* disposes of used air and gases.

Macbeth simplicity, and ease of operation. Write for details.

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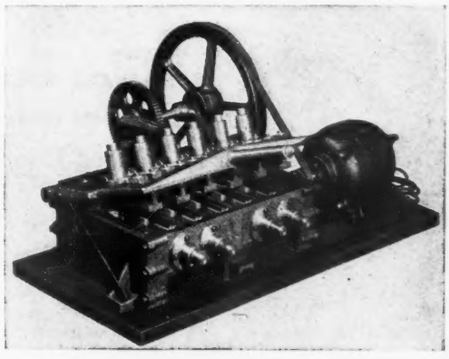
875 N. 28th Street, Philadelphia 30, Pa.

CLEAN and GRAPHITE SPACEBANDS MECHANICALLY!



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SOFNAS AUTOMATIC **MOUTHPIECE WIPER**

for ALL 30-EM Linotypes

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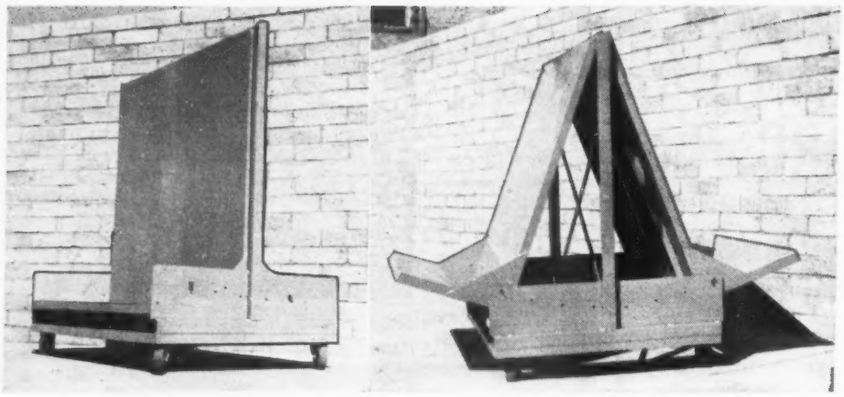

At left is shown a closed view of Padding Rack used in plant of The Arizona Printers, Inc., Phoenix, Ariz. Either or both sides can be swung outwardly at varying pitch to facilitate padding operations. The rack was designed by Robert Royden Greer, author of the accompanying article.

In the right-hand view, the Padding Rack is shown in open position. Each side measures 17 in. by 44 in. by 48 in. The rack is mounted on rubber wheeled casters to facilitate moving from one position to another.

packing sheets; below that prepared top sheets; below that is a large 36 in. drawer with 12 compartments of various sizes to hold press parts, tools, gauges, etc.; below that there is a space for a safety rag can, and a steel waste paper box. This puts everything at the pressman's finger tips right behind the press on which he works and permits him to organize himself and his work. The wasted hours per week per man will pay for this organizing table in no time, plus a clearer thinking pressman, because he now becomes positive instead of negative. The steel stone directly behind his presses saves much fatigue, and makes for more privacy that is conductive to better concentration and better work. The job presses have their own organizing table, also.

While we are talking about tables, there is a table that I had built out of steel for the cutting department that met hearty approval. I used to make them out of wood, but had this one made out of steel. The table is 36 in. by 96 in. by 30 in. high. It has proper reinforcing with proper frame design to prevent bouncing when jogging sheets. Under this table two steel box trucks on casters each with long handle to catch all trimmings. It has a special angle front to easily receive trimmings, but huge capacity to hold trimmings without falling on the floor. When filled the trucks can be rolled quickly from under the table right into the aisle without disturbing the man at the cutter. As there are two of these he can segregate his type of waste for the best market prices.

This brings up the point that all tables in the plant of Arizona Printers, Inc., were gone over and strengthened. Then a piece of Masonite was cut to size and cemented down on the table top, using weights to hold it down tight until dry; then countersinking and placing woodscrews at corners and a few along the edge gave the bindery fine tables upon which to do the work.

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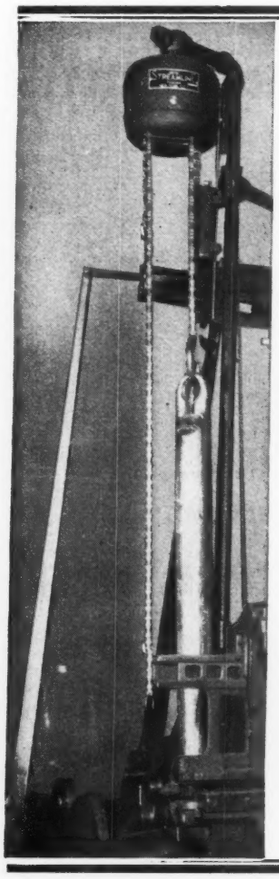

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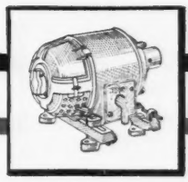

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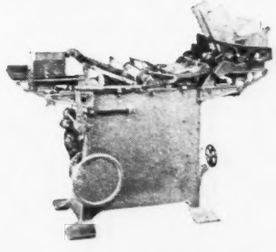

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of industry and civilization. I gave this much study over the last 20 years. Six years ago I worked at Ford for a short time and gathered many ideas. Streamlined methods of production in the plant can never be made to work out for the average printer by any conveyor methods, but the principle of conveyor economy of operation can be utilized in the printing business in a modified sense. It does not cost much and there are practically no maintenance costs.

Rolling Tables

So a modified conveyor method system has been installed in the plant of Arizona Printers. No conveyor is used, as employed in the sense of Ford or General Motors, but it is conveyor nevertheless. The installation consists of 34 rolling tables with 24 in. by 32 in. tops on heavy duty rubber-tired casters; eight signature trucks 18 in. by 36 in. with three shelves on rubber-tired casters; four heavy duty steel trucks with roller bearing casters; and two 6-wheel dollies to handle cases at shipping and receiving. An hydraulic lift truck complements this for any skids that may be received.

This is the method: The 34 rolling tables are 30 in. high. Every table in the place (including cutting table) is 30 in. high. The cutter cuts white stock down to press size and loads it upon one of these rolling tables. (By the way, each of these 34 rolling tables has rails below the surface to hold four plywood boards that fit the Vertical). They can be loaded with stock from the cutter and more loaded on top of the table. These tables can easily carry 1000 lbs. if need be.

As these tables leave the cutter tagged with job number, they can move into reservoir area to be rolled behind the press upon which the job is to be run. An empty rolling table is placed at the front of the press to receive the work. The plywood board that fits the Vertical is inserted onto the delivery table and when full it slides right into the open space under the rolling table. The table is designed to handle four loads underneath, or six, if it is work that cannot be piled too high. Half of these trucks are designed for six plywood pieces where the work is of such nature that a full load will have too much weight for fine work.

You see, the principle is to have a table move a load of work at one end of any operation in the plant; an empty rolling table is at the other end of that operation to receive the volume as it is being completed for that operation. This table then is rolled to the next operation and follows the same cycle. Whether it goes from one press to another or to bindery, cutter, inspection, wrapping or shipping, there is no handling, no hunting for table space at each operation, no congestion at any point, no soilage, no hunting for a truck or skid, no confusion, no Burma Road movement of a ream at a time to some remote point in the shop with the carrier to carry on a conversation with each one he meets while en route.

A girl will have no difficulty in pushing any of these tables with 500 lbs. on it. There is no noise, and it rolls up to a table in the bindery and becomes part of that table until it has been emptied. If it is wished to extend any bindery table for some big job, a couple of these tables placed side by side will give the added length until the job is completed.

There are reservoir areas at different locations to take care of any accumulation of work until ready for some particular one to be selected and rolled into position for a particular operation.

The signature truck is also a splendid unit that fits into bindery operation for folder, table work, stitching, padding, etc., as it rolls from one operation to the next. It can take care of the bulking type of operation or flat type of work equally as well. It moves from operation to operation, then to cutter, then to inspection and packing, then to shipping. It will easily carry 1000 lbs., although it is designed for 500 lbs.

The low flat truck is for sheets that have been cut down to a given size for cylinder press use. These are designed to be positioned right behind a press, or turn in a very narrow circle with full load. They are mobile on an instant's notice.

These low trucks have roller bearings and are designed to handle 2 T. if necessary. The size for this unit is 29 in. by 43 in.

(*Continued on Next Page*)

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(*Continued from Page 98*)

Coding the Equipment

The entire plant has been coded with each machine having a number. Each machine number was printed by proof press on cardboard and trimmed to size. These numbers were placed under each light on the reflector and Scotch tape covers the entire number; a smaller number was also made so that every electrical switch, box, controller, etc., carries the correct number of the machine.

Every box, switch, controller, etc., that is serviced by 220 v. was painted Alert Orange; and every box, etc., that is serviced by 110 v. was painted Precaution Blue. This was followed right back to the meter boards, and central switchboard. The boxes, switches, etc., carry the machine number that it services. This system eliminates blind hunting for the right switch or fuse.

Details in the Plant

Venetian blinds were put on the front end of the shop which made a marked improvement.

Rezinor overhead heating units were installed for the proper controlled direction and circulation of heat. In summer time, the gas in the heating units is turned off, but the large fans then are used to keep humidified air coming from the air cooling units circulating in the correct pattern.

Individual lights with flexible goosenecks were installed over the stitching machines.

A steel-walled room was installed to handle the metal remelting furnace and stereotyping work. Vents with blower keep air circulating from the room.

A steel door was designed to close in the upper part of the ramp. This is a double door with an opening of 7 ft. on the loading area that had been created by the use of the cable car. There was also a pedestrian door that opened to one side of this double door. When large machinery is to be moved the entire door area with pedestrian door can be folded accordion style and swung to the wall. This gives maximum clearance of 14 ft.

Frigidaire drinking fountains were installed at the most strategic points in the plant. This is hot country in the summer, and a cool drink without going the whole distance to the washroom will pay off in time saved. Then there is morale boost of a clean and refreshing drink not very far removed from the employee's work station. A light green tile board was mounted behind each of these fountains and all sinks with a little chrome trim to give a cooling effect of color as well.

There is a sink in the most strategic spot in the pressroom, as well as one in the bindery.

The ladies' rest room is laid out for the most desirable effect upon feminine reaction. The dePont theory of painting this room in old rose for the upper half of the wall with deep maroon for the lower half was followed. A 4 in. red stripe was painted where the two colors meet.

ADVERTISERS' INDEX FOR AUGUST 1948

Abrams, The M. L. Co. 86
American Gas Co. 20
American Roller Co. 99
American Type Founders. 2, 71
Aronsson Printing Co. 95
Atlantic Zinc Works. 75

Banthin Engineering Co. 87
Baum, Russell Ernest. 11
Beveridge Paper Co., The. 94
Bingham's, Sam'l, Son, Mfg. Co. 4
Blatchford, E. W., Co. 22, 93
Booth, E. A. Rubber Co. 83
Breuer Electric Mfg. Co. 85
Burgess Cellulose Co. 79

Certified Dry Mat Corp. 91
Challenge Machinery Co. 23
Champlain Co., Inc. 9
Chandler & Price Co. 15
Chapman Electric Neutralizer Co. 8
Chemco Photoproducts Co., Inc. 18
Cline Electric Mfg. Co. 99
Cottrell, C. B., & Sons, Inc. 63
Craftsmen Machinery Co. 98
Cromwell Paper Co., The. 95

Dayton Rubber Co. 24
Dexter Folder Co. 16, 17, 33
Doyle, J. E., Co. 31

Eastern Newspaper Supply Co. 93
Eastman Kodak Co., Graphic Arts Div. 67
Edes Mfg. Co., The. 84
Electric Boat Co., Printing Machinery Div. 10

General Electric Co. 30, 92
Goss Printing Press Co. 34
Griffiths, John, Co., Inc. 12

Hamilton Mfg. Co. 90
Hammond Machinery Builders, Inc. . . . . Inside Back Cover
Harris-Seybold Co. . . . . Inside Front Cover
Herbert Products, Inc. 91, 94
Herrick, William C., Ink Co., Inc. 99
Hess & Barker. 78

Ideal Roller & Mfg. Co. 69
Imperial Type Metal Co. 31, 77
International Printing Ink Co., Div. of Interchemical Corp. 6
Intertype Corp. . . . . Outside Back Cover

Johnson, Charles Eneu, & Co. 87
Justrite Mfg. Co. 92

Kellogg Switchboard & Supply Co. 80
Kimble Electric, Div. of Miehle Printing Press & Mfg. Co. 97
Klingrose Machine Corp. 98

Lake Erie Engineering Corp. 33
Los Angeles Type & Rule Co. 89
Lawson, E. P., Co. 19
Linotype Parts Co. 81, 93
Linotype Supply Co., Inc. 97
Ludlow Typograph Co. 7

Macbeth Arc Lamp Co. 95
Matrix Contrast Corp. 36
Mergenthaler Linotype Co. 65
Metals Refining Co., Div. of The Glidden Co. . 27
Miehle Printing Press & Mfg. Co. 13
Miller Printing Machinery Co. 99
Mohr Lino-Saw Co. 99
Monomelt Company, Inc. 76
Morrill, Geo. H.—General Printing Ink Div. Sun Chemical Corp. 3
Morrison Company, The. 28

Nolan Corporation. 97

Offen, B., & Co. 99

Parsons & Whittemore. 85
Pereira, Morton L., & Associates. 89
Printer's and Lithographers' International Relief Committee. 73
Process Color Plate Co. 96

Reid, William, Co. 99
Richards, J. A. Co. 99
Rouse, H. B., & Co. 83
Rosback, F. P., Co. 25
Royle, John & Sons. 91

Shulman, Ben. 98
SKF Industries, Inc. 26
Sofnas Bros. 95
Spiral Binding Co. 89
Sta-Hi Corp. 1
Star Cement Co. 99
Streamline Metal Feeder Co. 96
Surface Combustion Corp. 31
Syntron Company. 91

Teletypesetter Corp. 88
Timken Roller Bearing Co. 29
Tingue Brown & Co. 32
Triangle Ink & Color Co., Inc. 82
Turner Printing Machinery, Inc. 99

U. S. Radium Corp. 14

Vandercook & Sons, Inc. 35
Verner, B., & Co., Inc. 97
Vulcan Proofing Co. 81

Wetter Numbering Machine Co. 97
Wise, William J. 98
Wood Flong Corp. 93
Wood Newspaper Machinery Corp. 21

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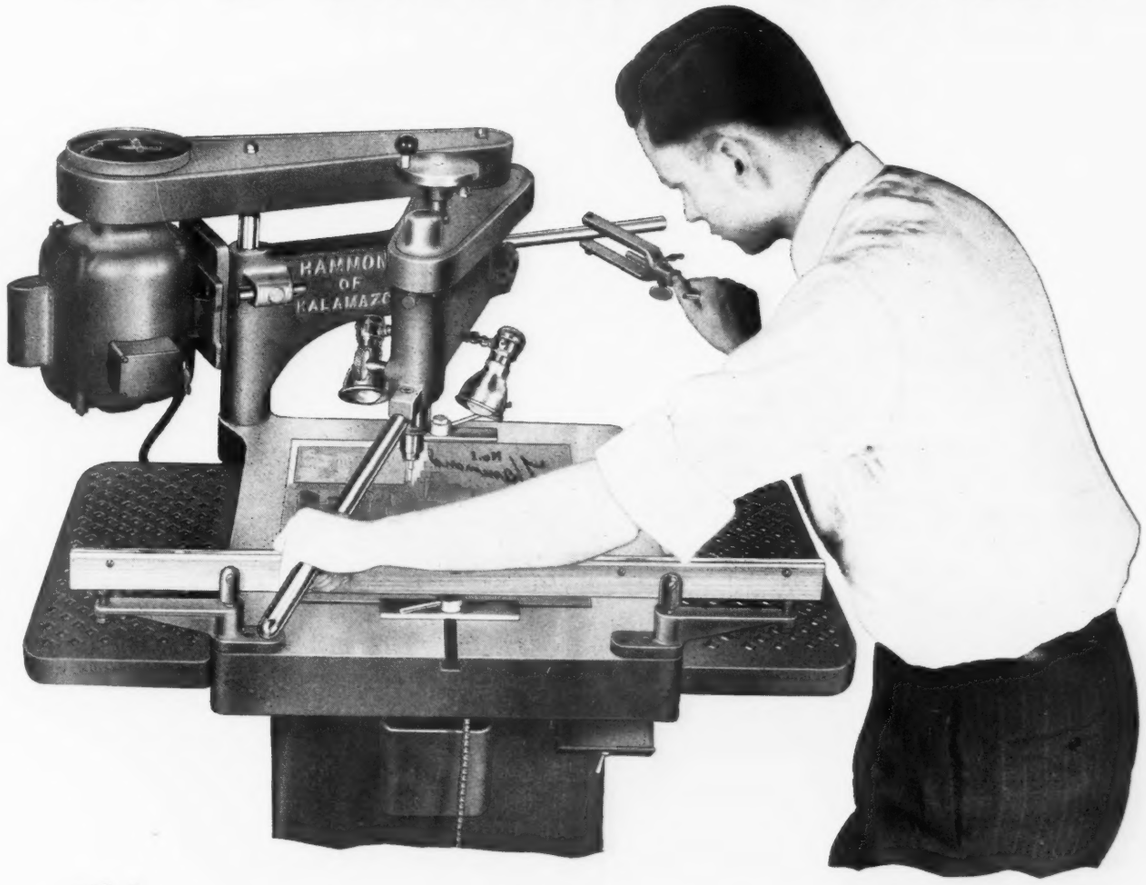

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